THE Soybean Digest

OFFICIAL PUBLICATION • AMERICAN SOYBEAN ASSOCIATION

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MAY • 1954

VOLUME 14 • NUMBER 7

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THE Soybean Digest

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Vol. 14 • May, 1954 • No. 7

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THE SOYBEAN DIGEST

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THE AMERICAN SOYBEAN ASSOCIATION

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Objectives of the American Soybean Association include the bringing together of all persons interested in the production, distribution and utilization of soybeans; the collection and dissemination of the best available information relating to both the practical and scientific phases of the problems of increased yields coupled with lessened costs; the safe-guarding of production against diseases and insect pests; the promotion of the development of new varieties; the encouragement of the interest of federal and state governments and experiment stations; and the rendering of all possible services to the industry.

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EDITOR'S DESK . . . . . By GEO. M. STRAYER

GOOD EXPORT DEMAND FOR 1954 CROP

Brussels, Belgium—It has become a standing joke with members of the Agricultural Foreign Trade Mission of which I am a member that whenever we go into another country the one commodity they want in quantity is SOYBEANS. Wheat, cotton, corn, the other commodities we have in surplus are also in plentiful supply over here. Fats and oils and proteins are not in plentiful supply.

A new factor is now entering the picture in European countries. In the attempts to increase the food supplies in most countries extensive wheat acreage increases have been supported by subsidies and price supports. Wheat production has soared far above prewar levels. Livestock production has been fostered to the point where much greater percentages of their meat products have been produced right here at home. But the stimulus in wheat production has made less and less land available for feed grains. Protein meals are becoming more and more of a factor in their livestock feeding operations.

Soybeans produce more high quality protein meal per ton of raw material than anything else they can buy. They like it for feeding. The crushers like soybeans because they supply work for their plants in greater tonnages before they reach saturation of the oil markets. Soybean oil is becoming recognized as a very valuable food oil, especially for blending with hard oils such as rapeseed oil, in the making of margarines and shortening. Our new schedule of support prices makes 1954 crop American soybeans look very inviting to European buyers. Considerable buying on futures is now taking place. All buyers over here are following our markets very closely. I find they know more about them than I am able to pick up from the available news sources here.

In my book it all adds up to the probability of the greatest export demand in history for American soybeans, when the 1954 crop movement begins and prices become more competitive. We will probably need every bit of it! And it may well mean 25 or even 50 cents per bushel to growers on every bushel of soybeans grown in 1954, too. Don't sell the 1954 soybean crop short!!

But it is unfortunate that the crops which we now hold in surplus are the very crops not wanted in quantity over here, and the commodity on which we are short is the very commodity which buyers in every country we have visited so far want to buy in quantity. Acreage control measures instituted this year will assist in making this adjustment.

MARKET FOR GOOD QUALITY SOYBEANS

London, England — England and the United Kingdom have made remarkable strides down the comeback trail in recent years. A nation which was the world's largest creditor nation when she entered the war was the world's largest debtor nation when the war ended. The British people accepted austerity, they did without things which other Europeans thought they had to have, and they looked at the longtime viewpoint.

My observations lead me to believe that a rapidly increasing market for our soybeans is being established here in Britain. They want our oil and they want our meal. What more can we ask?

We have only two things which can stand in our way. The first is price. Acreage and weather conditions, plus demand, will determine that price. The second is our willingness to so arrange our export shipments that we deliver a good quality product.

INDUSTRY GOES TO EXTREMES

Soybeans at too high a price are almost as bad for our industry as are soybeans at too low a price. Word reaching me over here indicates nearby soybeans now well over the $4 mark. While it is good for the man still holding his 1953-crop soybeans, it is bad for our industry.

Overly high prices tend to stimulate planted acreages, especially when they come at soybean planting time. With the huge acreage increase already scheduled for this year it is extremely bad to have the present surge in bean prices serve as impetus for an even greater 1954 acreage. There will be plenty of expansion without the stimulus of increasingly high prices.

To add to the confusion the same high prices tend to drive buyers away from the end commodities, and once they have shifted to other oil and meal supplies it is always very difficult to bring them back. Thus, with an even greater crop stimulated by the high prices at present we will have driven away the very markets we will need very badly next fall when the new crop movement starts. Buyers do not make changes unless forced to do so by price or supply. Now we have short supplies and high prices. Next fall we may well have the reverse situation.

Our industry needs stability. Buyers prefer adequate supplies at rather uniform prices. We provide the exact opposite. First we go too high, then we go to the other extreme. Perhaps the 1954 crop will bring us to a point of stability. We will be more healthy when we reach that point.

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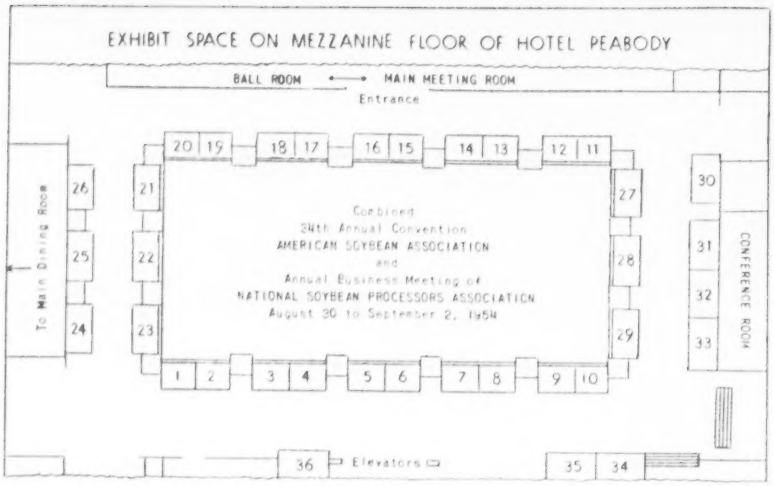

EXHIBITS. Here is shown the floor plan of the exhibit space on the mezzanine floor of Hotel Peabody at Memphis, Tenn., where the combined conventions of the American Soybean Association and the National Soybean Processors Association will be held Aug. 30-31, and Sept. 1-2.

Here exhibitors will be able to meet all segments of the industry—representatives of processing firms, country handlers, producers and utilizers of soybeans and soybean products—at the same time and the same place. They will be together for four successive days of meetings, and it is being freely predicted in larger numbers than ever before.

Reservations for booths are coming in rapidly, but some good choices are left. Reservations are made in the order received. If you wish your firm represented by a booth at the big combined convention, phone, wire or write for complete information:

Geo. McCulley, business manager, American Soybean Association, Hudson, Iowa.

Here's Where You Will Meet Your Exhibitors

Convention in Brief

Aug. 30—National Soybean Processors Association.

Aug. 31—American Soybean Association, session on utilization and processing.

Sept. 1—American Soybean Association, production, storage, handling, and marketing.

Sept. 1, evening—Annual American Soybean Association banquet.

Sept. 2—American Soybean Association, field trip to Arkansas points.

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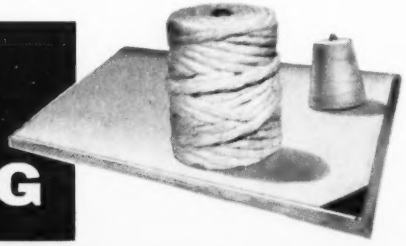

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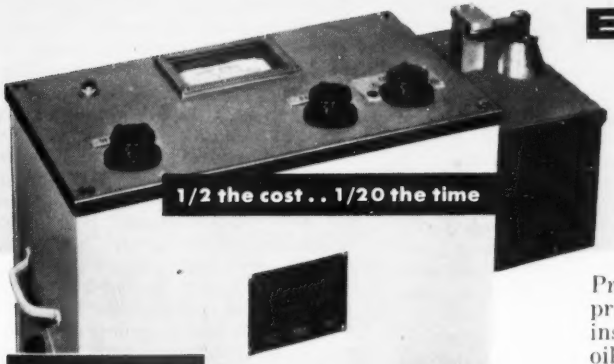

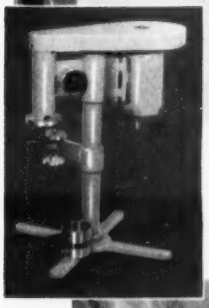

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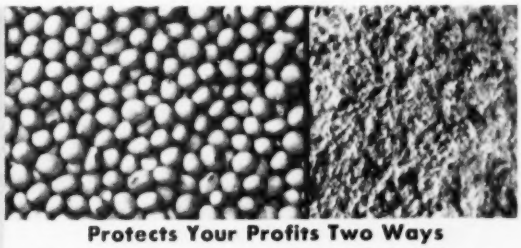

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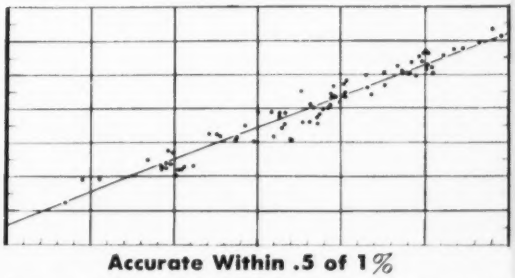

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GROWERS

Start Beans Before Weeds

SOYBEANS ARE equal or superior to any other crop in smothering out weeds, C. J. Willard, Ohio State University agronomist, told the Tri-State Soybean Conference at Columbus in April.

"We have noted repeatedly in our chemical weed control tests on beans drilled solid at the Ohio Station that in many instances the untreated beans control the weeds so well that we have difficulty in making readings on the effectiveness of the herbicides," said Dr. Willard.

"The essential item, then, is to get the beans ahead of the weeds. Beans planted while the ground is cool germinate slowly and grow slowly. A number of weeds, such as pigweed and lambsquarter, grow more rapidly this time of year than do soys. Early seeding of soybeans in a weedy field encourages their overgrowth by weeds.

"Beans should be planted on moist warm soil, shallow but covered. They will then come up in five or six days and it takes a vigorous growing perennial weed to outgrow them.

"Beans should be planted thick. Thick planting insures that the beans are close together in the row, so they 'help each other up'; that there are few or no holes in the cover established by the soybeans, and that the beans themselves gather height rapidly.

"Soybeans, when inoculated can grow rapidly in low-nitrogen soils if they have an abundance of minerals and favorable physical conditions.

"Never use a fertilizer containing nitrogen on soybeans at seeding time. It will just help the weeds. I once saw a field where a farmer had finished the field with 3-12-12 after starting with 0-12-12. The main field 'didn't have a weed in it,' to quote the farmer's comment. The part finished with 3-12-12 had lambsquarter five feet high, so that it was impossible to combine the area. Nine pounds of nitrogen per acre had pushed the lambsquarter ahead of the beans just after germination, and it stayed there the rest of the year.

"Cultivation of soybeans drilled solid to be effective must be done when the weeds are small. This means the beans are also small. If a harrow or rotary hoe is used on beans drilled solid a considerable proportion of the beans will be killed at the same time. This is another advantage of thick seeding. All you get out of late harrowing on most soil types is burning a little gasoline to drag the harrow over the field.

"Chemical control of weeds in soybeans is yet only partially successful. So far, no herbicide has been found that can be applied to beans post-emergence, and take out any important soybean weeds. There are no important weeds in the Cornbelt that are more sensitive to 2,4-D than soybeans.

"The most successful pre-emergence herbicide has been DNBP sold commercially under the trademarks Premerge and Sinox PE. The rate should be from five to ten pounds active ingredient per acre, with seven pounds a good average recommendation for beans drilled solid. On rowed beans, the amount can be reduced by spraying over each row. DNBP will be safer and more effective if the soil over the beans is smooth and firm, not in ridges as the drill leaves it. Use a roller, smoothing harrow, or any special smoothing device.

"Two new materials now on the market as Alanap and CIPC have given promising results in our trials. Alanap has been somewhat superior to CIPC in our tests, but not elsewhere. The North Central Weed Control Conference at Kansas City last December recommended CIPC for pre-emergence use on soybeans."

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Try Companion Crop For Weed Control

THE USE of a companion crop with soybeans for weed control will be widely tested in the soybean area of the North Central region this summer, R. S. Dunham, University of Minnesota agronomist, told the Tri-State Soybean Conference at Columbia, Mo., Mar. 18.

Dunham reported on a Minnesota study of companion crops for weed control in soybeans in which a comparison was made of soybeans with and without a companion crop in both six-inch and forty-inch rows.

Two methods were tried: (1) crops sown immediately after planting the soybeans, and (2) crops sown 18 days before planting the soybeans.

Soybeans sown with a grain drill in six-inch rows and with winter wheat or winter rye as a companion crop yielded as much or more than those without a companion crop whether they were drilled or planted in cultivated rows, said Dunham. Weed control in the narrow rows was much superior when a companion crop was used and was about equal to that achieved by cultivation.

Of the companion crops tried, only wheat, rye, and field peas gave satisfactory weed control. Field peas, however, caused lodging of the soybeans.

Additional advantages of the companion crop with the drilled beans included reduced lodging and earlier maturity. Soybeans in the wheat or rye plots at one location matured seven days before those in cultivated rows and nine days before those in six-inch rows without a companion crop, said Dunham.

The height of the soybeans was reduced in both the wheat and rye plots but the lowest pod was carried higher on the plant than in the cultivated 40-inch-row plots.

Where the soybeans were planted in 40-inch rows and cultivated, none of the companion crops had much effect on the weeds in the row and in some instances soybean yields were reduced, according to Dunham.

The companion crops were ineffective for weed control when they were planted 18 days before planting soybeans.

Dunham emphasized that he did not know at the present time how widely the results might be applied.

Indiana Soybean Pioneer Passes

LOUIS WAGNER, 81, one of the pioneer Indiana soybean growers and longtime cooperator with Purdue University, died at the home of a daughter, Mrs. Marie Hirsch, in Evansville, Ind., Mar. 3.

Wagner took a keen interest in new agricultural developments and was always highly variety conscious. Soybeans looked good to him when first introduced as a seed crop in southern Indiana.

He saw and had a very active part in the transition from the production of the seed of the black-seeded hay varieties to the newest yellow-seeded commercial varieties. He helped to popularize the black-seeded Kingwa hay variety but changed to the yellow-seeded varieties Gibson, Patoka, Lincoln, Wabash, Perry and Clark as they became available. He saw average yields of soybeans rise from 25 up to 45 bushels per acre on his farm in the past two decades through the use of the best adapted varieties and improved cultural practices.

In 1935 an extensive soybean variety demonstration was held on his farm in conjunction with the annual meeting of the American Soybean Association in Indiana. He or members of his family have cooperated continuously with Purdue University since 1935 in the soybean variety development program.

Wagner is survived by five daughters, all of whom live in the Evansville area, and two sons. Bernard farms the family farm and Cyril farms near Eldorado, Ill. Both sons are active cooperators in the soybean breeding projects of the universities in their respective states.

LOUIS WAGNER, right, was always interested in learning more about the soybean crop. At left is Ray Servies, a friend.

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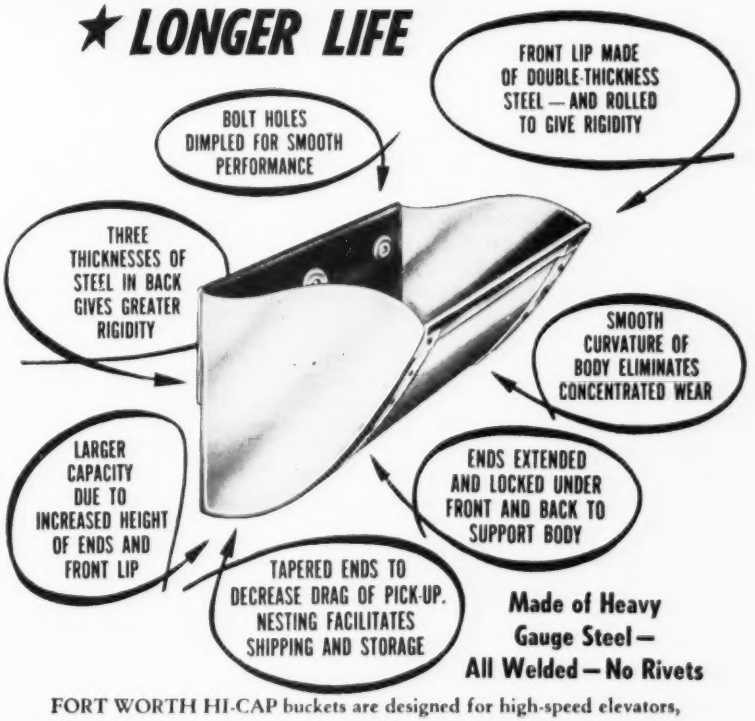
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What Are Top Soybean Yields?

(Staff Written)

WHAT ARE the top soybean yields we can produce in this country?

One of our readers wrote recently: "I am hoping to read soon that the plant breeders have developed a new type bean plant that is relatively short and bushy and a prolific breeder. Seventy-bushel beans do not seem like an impossibility to me, especially if beans respond to irrigation."

Digest Editor Geo. M. Strayer suggested the possibility of 100-bushel yields in a recent editorial.

How close are we to such yields?

What steps must we take to reach them?

What are the factors that prevent 70 bushel crops—or even 40- or 50-bushel crops in most sections?

Wrote Experts

To find out the Digest wrote to a large number of experts, both leading producers and research men, and asked them the above questions.

The response was astonishing. It showed that many able men are giving close attention to the question of higher soybean production.

Following is our attempt to summarize their answers:

70 Bushels Here. Seventy-bushel yields are already here, at least in test plots, our informants told us. They have been produced a few times in small plots by plant breeders.

C. R. Weber, associate professor, Iowa State College, and agronomist, USDA, says 70 bushels per acre were produced in test plots on the agronomy farm at the college in 1952. He emphasizes that this was in a good season, from good strains in small plots. The stand was good and there were no weeds or harvesting losses.

Herbert W. Johnson, U. S. Department of Agriculture research agronomist at Beltsville, Md., writes: "I think we will obtain a 70-bushel yield under irrigation within the next two or three years."

On a larger scale, Martin G. Weiss, chief of the field crops research branch of the U. S. Department of Agriculture, says the highest yields he has seen were in the Mississippi-Yazoo Delta in 1950. He visited fields where combine measurements indicated yields of 65 bushels per acre. Fields as large as 800 acres would average close to 60 bushels an acre, he says.

Indiana is also close to 70 bushels an acre in its top fields, K. E. Beeson and A. H. Probst of Purdue University point out. They say: "Several times the yield in our state contest has slightly exceeded 60 bushels. With the ability of Clark to outyield the Lincoln 19 percent as obtained in Indiana yield trials, in several of these cases the yield should have been 70 bushels per acre with the higher yielding Clark."

Highest test plot yields in Minnesota have been over 60 bushels per acre, says J. W. Lambert of the department of agronomy and plant genetics at the University. Minnesotans could expect yields well over 50 bushels per acre with the best varieties available if conditions were at their optimum, according to Lambert.

W. M. Scott, Jr., Tallulah, La., believes there are several varieties with the inherent ability to produce 70 bushels an acre in his area. He names them: Dortchsoy 67, Ogden, Dortchsoy 2, Hale 2, Volstate, Roanoke and Dortchsoy 31.

Soybeans Versus Corn. Why is the top yield on corn so much higher than the top yield on soybeans? And why is the *experimental* top on corn so much higher in comparison to the *average* yield than the experimental top on soybeans as compared to the average yield?

Our correspondents offer several explanations.

1—We are comparing a carbohydrate crop (corn) with one that produces protein and oil. Production of soybeans is much more complex and you can't expect the same yields.

Asks Weber: "When will the yields of soybeans be as high as corn? My answer is that they are about equal now—when the energy units that the two crops produce are considered along with the constituents of protein and oil and the amount in soybeans as compared to the starch in corn. Maybe soybeans are worth more money!"

2—A. L. Lang of the University of Illinois suggests that the difference in yields is due to nitrogen. Soybeans are a legume and supply their own nitrogen. If you add nitrogen to the corn crop on Illinois dark soils the average yield can be raised from 50 to between 70 and 75 bushels an acre without any mineral fertilization. This, compared to top experimental yields, is more nearly the same ratio as average and top soybean yields.

3—We know more about the use of fertilizers on corn than we do on soybeans. We haven't reached the peak yet in fertilization of corn. But after the soybean yield reaches a certain point there is no further return from present fertilizer practices. We need to know much more about how to fertilize this crop.

4—Soybeans are self-pollinating. We can't take advantage of the hybrid vigor that has pushed corn yields up and which shows up particularly in the F_1 generation in corn. Plant breeders have not found a way of taking advantage of this factor in soybeans.

Limiting Factors

What are some of the factors that may be holding soybean yields down? The following were suggested:

Length of Growing Season. Weiss says the length of growing season is definitely a limiting factor on yields in the northern half of the U. S., but not in the southern half.

"I do not believe it is remotely possible to develop a variety of soybeans for the Minnesota area which will have as high *potential* yields as a variety with equal adaptation for the Mississippi Delta area," he says. He points out that in the Delta planting on May 1 gives as high yields as earlier dates of planting.

Scott at Tallulah agrees with Weiss so far as the South is concerned. He says Ogdens planted on July 2 last year yielded as much as those planted in April, May or June.

Due to the shorter growing season top potential yields are probably not as high, other things being equal, in the northern U. S. as in the southern.

Sunlight. Weiss says he does not feel that sunlight is the limiting factor on yields. "If this were so, we should find wider row spacing of particular value."

L. M. Humphrey, R. L. Dortch Seed Farms plant breeder, agrees that sunlight is not a factor except as a case of shattering. "Sunlight is the chief environmental cause of shatter."

Moisture. Insufficient moisture has been a definite limiting factor in many parts of the soybean belt during the past three years. And summer droughts will undoubtedly continue to limit soybean yields.

But Leonard F. Williams, associate professor of field crops at the University of Missouri, believes that lack of moisture is more a factor in the production of low average yields than in preventing very high yields. He says that irrigation increased yields from 16 bushels per acre to 30 in 1953. But when *unirrigated* fields in Missouri produced 30 bushels, irrigation gave no increase.

Fields can have ideal moisture conditions and still produce far less than 70 bushels per acre. It is also pointed out that soybeans make little or no production in some moist and humid regions regardless of soil productivity.

Much so-called drought injury is not drought injury at all but is the result of soil deficiencies, according to George E. Smith of the University of Missouri.

Some observers make the point that dehydration of the soybean plant on extremely hot dry days may reduce yields. E. E. Hartwig, agronomist at the Delta Branch Experiment Station, Stoneville, Miss., doubts that this is true. He points out that in experimental plantings under irrigation in southern California where temperatures are extremely high and the relative humidity is very low, yields of over 50 bushels per acre have been produced.

Fertility Level. The question always comes up, "Why don't fertilizers applied to the bean crop produce better results?"

There is no doubt that the fertility level does affect soybean yields, whatever the results with fertilizers. J. L. Cartter, director of the U. S. Regional Soybean Laboratory, and workers at the University of Illinois, say that by following recommended soil building and fertilizing practices *average* yields could be increased 50 percent in many areas.

Weber at Ames points out, concerning the Iowa yield contests, "There never has been a yield contest won yet that wasn't from a crop grown in a hog-lot, cattle pasture, virgin land, land in alfalfa or clover for a number of years. Then on top of this background of high fertility, commercial fertilizers and barnyard manure were applied — one or both in liberal amounts."

Says Carver Brown, Laddonia, Mo., producer, "The best chance we have of substantially raising both the top yields and average yields is to find some way to cause soybeans to respond to generous applications of commercial fertilizer." The question is, how?

Donald G. Hanway of the University of Nebraska agronomy department points out the extremely high nitrogen demand that a 70-bushel soybean crop would make—about 280 pounds as compared to 150 pounds by a 100-bushel corn crop. Most soils cannot be expected to supply this amount in one season, and the level of nitrogen in the soil will place a definite ceiling on yields.

Diseases and Pests. These alone do not prevent highest yields but they take their toll. Research men estimate that an average of 12½ percent of the potential yield of soybeans has been lost due to diseases during the last 10-year period.

Production Practices. Practice lags behind "know-how." Illinois workers believe that the national average yield could be nearly doubled if producers would apply the best research knowledge available to them.

Our correspondents most often mention the following practices as the ones that will do most toward raising yields:

1—Best rotations.

2—Use of improved varieties.

3—Thorough land preparation and shallow cultivation. Control of weeds.

4—Adequate amounts of balanced fertilizers.

5—Plant enough good seed at the right time.

6—Inoculation and/or seed treatment.

7—Proper row widths.

8—Maintain organic matter at optimum levels.

9—Meet the needs of the crop for water.

10—Control of disease and insect pests.

11—A more efficient job of harvesting.

Factors that limit yields most in the Stoneville, Miss., area are failure to get stands and control weeds, according to Hartwig. He says more information is needed on how to properly prepare seedbeds on heavy clay soils so a uniform stand may be had whether or not it rains after planting.

Others also stress the importance of weed control. Says R. E. Hodgson, superintendent, Minnesota Agricul-

(Continued on page 21)

WEEDS are probably the No. 1 production hazard. Here Ardell Persinger, big Whiting, Iowa, producer, fall disks instead of plowing to keep weed seeds on top. He can cover 10 acres an hour.

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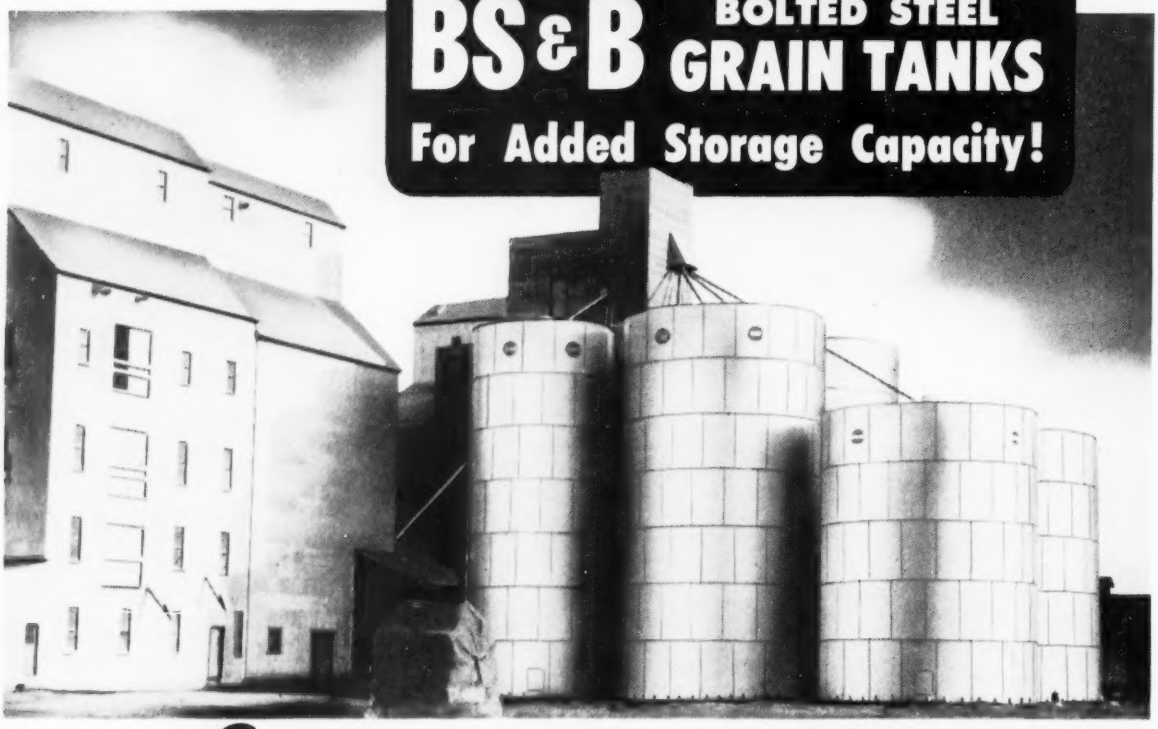

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6 Lower Insurance Rates Insurance rates—an important part of the operating cost of any installation—can tell you a lot about the relative safety of *your* installation. Because BS&B Bolted Steel Tanks *are* safer, insurance rates on the contents are lower, too... in some instances as much as 35%!

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AMERICAN SOYBEAN ASSOCIATION

Late News

Hudson, Iowa, May 8, 1954

Published 32 times yearly as a service to the soybean industry.

SOYBEAN PLANTING

Soybean planting was well along in some parts of the Midsouth in late April and about to start in central and southern Illinois, Iowa and elsewhere. Factors in early planting were favorable planting weather and the urge to get on the early September market with its premium price. **September premium prices also favor the trend to earlier varieties.**

G. A. Hale, Burdette, Ark., reports planting 98 percent complete in central Mississippi County. Jake Hartz, Jr., Stuttgart, reports planting really getting under way the first 10 days in May in his area. Seventy-five percent of the crop will be the Ogden variety.

Planting in the southeast Missouri Delta was 75 percent completed the last week in April, and 60 percent was up to a good stand, according to O. H. Acom, Wardell. Planting in south Georgia was just starting, and there was a small amount of planting in Kentucky.

ACREAGE OUTLOOK

The bull market and the high cost and scarcity of good seed are opposing factors in establishing the final soybean acreage. Russell Davis, Clayton, reports little seed is germinating above 50 percent in west central Illinois, and **it is obvious that poor germination seed will be used in some places.** M. W. Le Vier, Wichita, reports the Kansas seed situation very bad as nearly all seed was affected by last year's drouth and germination is very low.

J. E. Johnson, Champaign, Ill., pegs the total 1954 acreage at 20 million, 2 million above the March intentions and **4 million above 1953.** Johson says corn acreage reduction in his area will not be heavy and on the whole the reduced wheat acreage went to oats. He says there will be some small acreage of soybeans for hay.

Davis at Clayton, Ill., says some acreage intended for corn will go into beans if subsoil moisture does not improve, and some early seeded oats may be replaced with beans.

J. B. Edmondson, Danville, expects no acreage increase in south central Indiana. He says corn compliance will be low. Soybean seed cost is high, the quality poor and **scarcity discourages new soybean growers.** The normal oats acreage in his area is already in.

A big increase in bean acreage will be found all along north and west Florida and **total acreage will be about 25,000,** reports H. I. West, Bay Minette, Ala. He says people are gradually awakening to the fact that there is money in soybeans. Experiment stations and the extension service there have become alert to soybean growing. (For further crop information see page 22.)

OUTLOOK FOR MOISTURE

Most of the soybean belt has had from 50 to 100 percent of normal precipitation during the past 19 weeks, according to Weather Bureau maps. Some northern spots have had above normal precipitation. The outlook has improved with widespread rains the last few days in April. **But our correspondents over almost the whole area report subsoil moisture is still deficient and in some places the situation is serious.**

MARKET OUTLOOK

The highly speculative market for the season starting before Jan. 1 could result in a heavy drop in the November option, believes Johnson at Champaign, Ill. He says he expects a heavy decline when speculation is removed from the old crop. He points out that growers did not sell new crop very freely at $2.50 or better but **the recent decline will stimulate more selling.**

1954 EXPORT MARKET

A whopping big export market, for as many as 75 million bushels of beans, may develop next year. See Strayer's report from Europe on page 4 and Washington Digest report on page 36.

A heavy February freeze destroyed large areas of Spain's best olive groves, according to Washington reports, including some trees 30 years old. Spanish olive oil output will be crippled for next five to ten years. This may not necessarily mean an increase in demand for U. S. soybean oil **next year** due to present supplies, but **may mean some additional market for the longer term.**

BEANS STILL UNDER LOAN

Less than 10 percent of the original amount of soybeans stored are still under loan in seven north central Iowa counties, reports Glen Pogeler, Mason City.

MARGARINE PRODUCTION

Margarine production in the first quarter of 1954 topped the same period of last year by more than 5 percent, reports S. F. Riepma, president of the National Association of Margarine Manufacturers. He says margarine and creamery butter production in the first quarter were about equal; but points out that rising oil prices and the threat of sale of government-owned butter at a bargain make all forecasts of total 1954 margarine production difficult.

	Cash price to farmers for No. 1 soybeans Apr. 29	Cash price to farmers for No. 2 soybeans Apr. 29	Retail cash price for bagged soybean oil meal Apr. 29
Ark.		$3.60	
Ill.	3.90 @ $3.93	3.86 @ $4.00	$105
Ind.	3.92		
Iowa	3.90	3.80 @ 3.85½	90 @ $125
Kans.	3.49	3.76	115 @ 116.50
Minn.		3.84	115
Miss.		3.55	
N. C.	3.40		
Ohio		3.84	
S. C.	3.00	3.00	
Va.	3.25		
Ontario	3.68	3.65	

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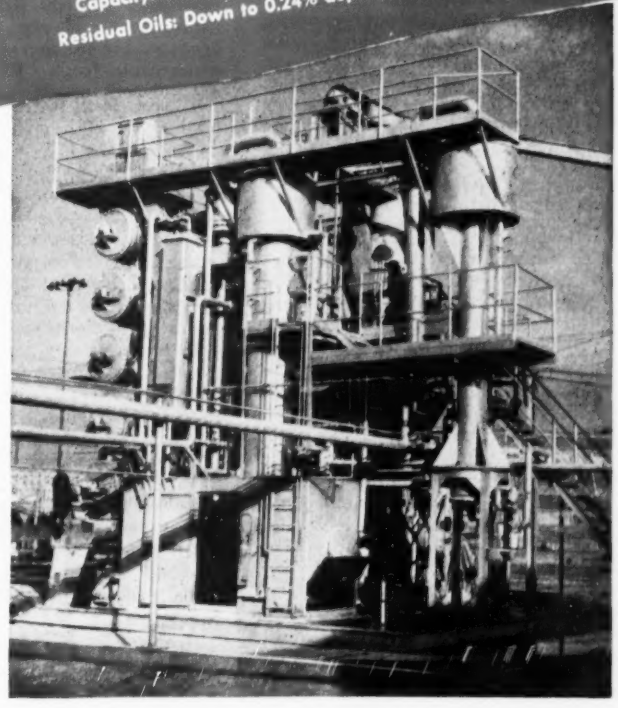

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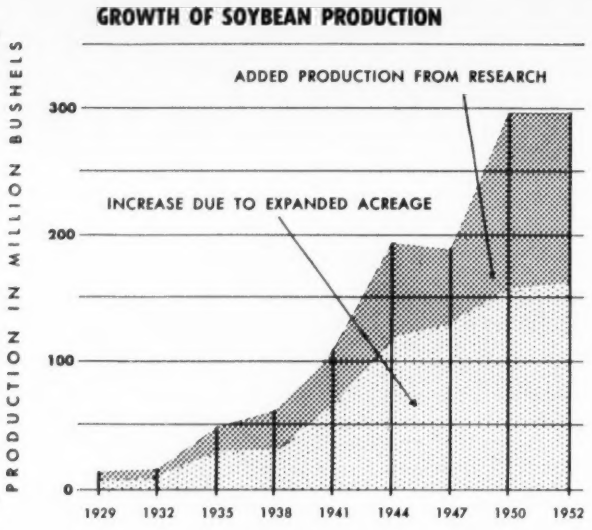
The Need for Research in Soybean Production



(Advisory Board, National Soybean Crop Improvement Council)

SOYBEAN research is needed. The need for strengthening research and education in agriculture is widely recognized and accepted. There are few places where the need is more apparent than in soybean production.

In order for soybeans to maintain their contribution to our economy, our investment in research must keep pace with the inherent problems of expanding production. During the past 10 years, our research investment has lagged dangerously behind.

Soybeans are one of America's most important crops.

Soybeans today rank as our fifth most important crop. In a number of states, they rank first. Since 1929, production has jumped from 8 million bushels on less than three-quarters of a million acres to 300 million bushels on 15 million acres. Expanded acreage can account for only slightly more than half of our increased production. *The rest must be credited to research.*

Before 1940, we imported more than 40 percent of our edible vegetable oils. Because research made possible the tremendous expansion of soybean production, we now have a dependable domestic supply.

As our population increases, the demand for edible oils grows. New industrial uses also indicate an expanding consumption of soybean oil.

Today, again thanks to research, more than 60 percent of the total vegetable protein fed to livestock comes from soybeans. Soybean meal accounts for 45 percent of all protein concentrate feeds. Even with present livestock numbers, efficient feeding practice requires much larger supplies of supplements than we have now. Some livestock experts say we need twice as much.

But our investment in research has declined.

Conservatively estimated, our returns from soybean research in terms of higher yield and oil content alone amount to more than $300 million extra income each year. Funds for research from both federal and state sources, however, amount to less than $400,000. This means that every research dollar invested returns $750 in extra income. In terms of our $700 million soybean crop, we are spending less than 1/17 of 1 percent for vitally needed research and we have made practically no increase in our research investment during the past few years.

More research is needed.

Here are some of the opportunities for high returns from an increase in our investment in soybean research:

1—Research will give higher yielding varieties. A yield increase of one bushel per acre will increase the value of the crop $30 million and reduce the unit production costs.

2—Research will give higher oil content. Each 1 percent increase in the oil content of beans will return $15 million in extra income.

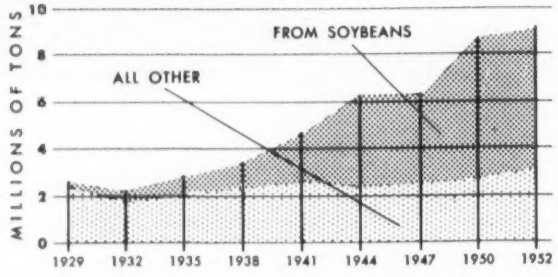
3—Research will help control serious diseases. By controlling all soybean diseases, yields can be increased from 10 to 15 percent.

4—Research will show how to reduce harvesting losses. Today from 5 to 10 percent of the soybean crop is lost in harvesting.

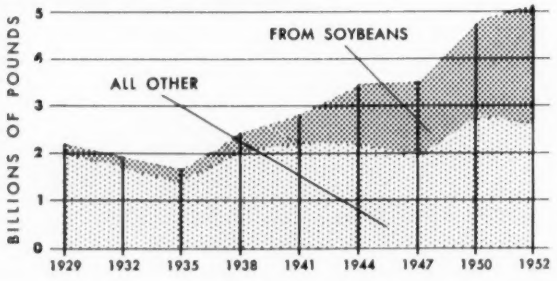
5—Research will tell more about the fertility requirements. With this knowledge production can be increased and soil fertility maintained at the same time.

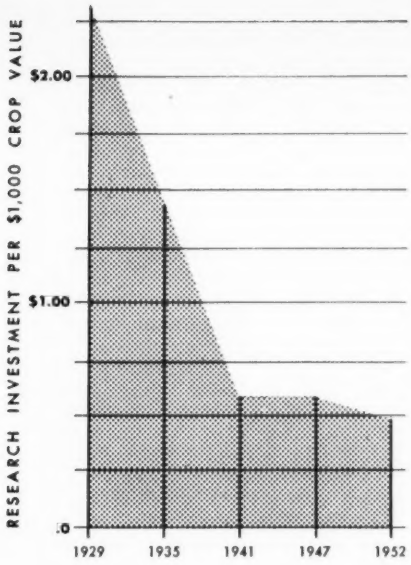
6—Research will give the knowledge for increasing the amount of certain amino acids in soybeans. Such improved varieties will in-

PRODUCTION OF HIGH PROTEIN FEEDS FROM OIL SEEDS



U. S. PRODUCTION OF VEGETABLE OIL





crease the value of the soybean oil meal as a livestock feed.

So much for so little.

How much investment? In terms of the annual $700 million soybean crop the need for additional investment in production research is unbelievably small—only $175,000 each year. The immediate needs are to increase the facilities and personnel at the U. S. Regional Soybean Laboratory, which serves the 24 major soybean producing states; increase fundamental research in soybean breeding including early and more extensive evaluation of plant introductions; establish a new soybean breeding center in the southeast, and increase research grants in cooperating states.

Who will benefit? The producer—from increased production efficiency, reduced losses from diseases and insects, and better use of fertilizers.

The livestock farmer—from an increased supply of improved vegetable protein supplement.

The consumer—from an increasingly stable supply of domestic vegetable oil.

Leading High Yield Factors

HIGH YIELDING varieties and high fertility levels are the two outstanding factors in contributing to high yields, K. E. Beeson, Purdue University extension agronomist, told the Tri-State Soybean Conference at Columbus, Ohio, Apr. 9.

The title of Beeson's talk was, "Soybean Growing by Champions." He based his remarks on 1214 reports by Indiana state yield contestants to date.

"From a fertility standpoint, the nearest we can come to drawing any specific conclusion is that the high yields in the contest have been grown on farms that are in a high state of fertility and on which the farmer follows excellent fertility practices from every angle," said Beeson.

"Corn and wheat usually receive the heavy fertilizer applications. Soybeans generally seem to benefit from the residual effects of the plant food, and except on potash deficient soils, no results are revealed by the contestants that indicate the nice response from direct fertilization that we get from the other two crops. On potash deficient soils, it is highly important to use liberal applications of potash preferably plowed down.

"Row width likewise does not seem to be important in influencing high yields. Never has a champion produced his high yield in rows closer than 38 inches. However, soys growing less vigorously may do better in these narrow rows as it seems very important that the vegetative growth be adequate to fill the interspaces if one is to obtain a reasonably satisfactory yield.

"I feel that the growers who are going to produce high yields of soys must have in the first place a high fertility level and be excellent farmers.

"Then nature must be kind to them, giving them an adequate supply of moisture, sunshine, air and the correct temperature, all of which contributes to plant food availability and growth that apparently results in heavy blossoming, retention of blossoms, and satisfactory filling of the pods.

"High number of beans per pod as a varietal characteristic does not seem to be a prerequisite for high yields. Never has a variety reported to develop more beans per pod than all others produced the highest yield. After all, the yield per acre is determined by the population, multiplied by the number of pods per plant multiplied by the number of seeds per pod.

"Of course the size of the beans is a factor, but it appears to be the ideal growing conditions that result in maximum pod setting and development that result in the high yield potentials."

THE COVER PICTURE

OUR FRONT cover shows a lake steamer taking on a cargo of soybeans bound for a Canadian processing plant, at the Irondale terminal elevator in Chicago of the Illinois Grain Terminals Co. A barge is also waiting to be loaded.

The Irondale elevator is a terminal point for a series of elevators located along the Illinois waterway, but beans are also loaded in by rail and truck. The big Irondale elevator has a storage capacity of 2½ million bushels.

Canada was a market for 4.6 million bushels of soybeans in 1953 in addition to an almost equal quantity produced at home.

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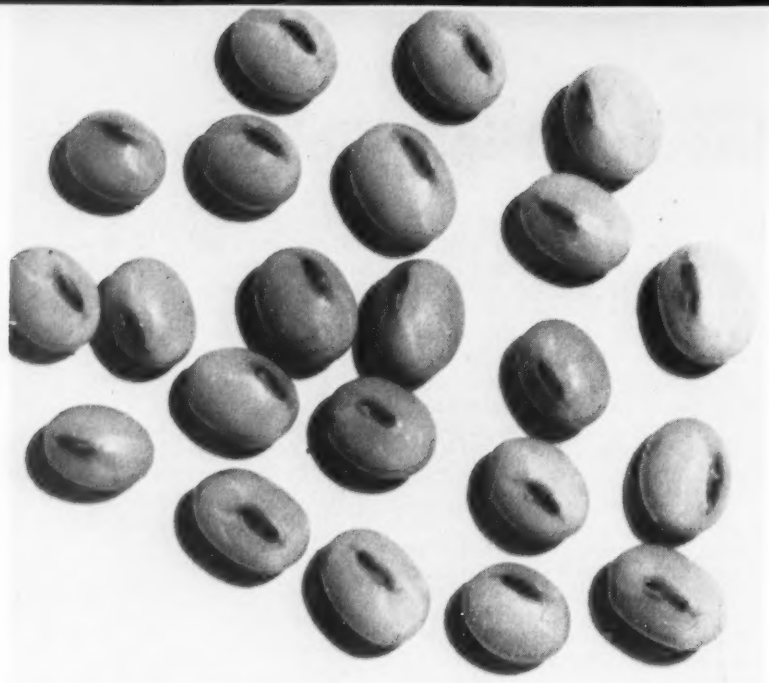

ATOMIC "dark eye." This dark eye color was one of the characteristics produced by irradiation. Normal bean of Dortchsoy 2 does not have any eye color.

Effects of Neutron Irradiation on Soybeans. II

By DR. L. M. HUMPHREY

Robert L. Dortch Seed Farms, Scott, Ark.

IN THE December 1951 issue of the Soybean Digest, I made a preliminary report on our irradiation work with soybeans. Briefly the work was initiated by sending samples of seed of a pure strain of Dortchsoy 2 beans to Oak Ridge, Tenn., and having them placed on an atom bomb pile. They were allowed to remain on the pile until specified amounts of neutron irradiation had passed through them. The irradiated seed were planted and in the second generation, many mutation types appeared. These mutations affected nearly every part of the plant in one or more ways. Progeny from these plants were grown in 1952 and again in 1953.

Although many of the more striking mutation types were interesting because the plants differed so much from the normal, these were not our primary interest. This atomic work, as we call it, was started in the hope of giving us a new attack on the general soybean breeding problem. Diversity of material is essential to any plant breeding program and may be obtained either by selection or hybridization or both. It was our hope that this atomic attack would provide a new source of diversity. This hope was realized considerably beyond our expectations.

Many of the striking types were propagated as curiosities and will be discussed briefly, but the greatest attention has been directed to such characteristics as increased vigor, increased shatter resistance, changes in size and quality of the seed, changes in oil and protein content and changes in time of maturity. The lines were also carefully observed for any indication of changes in disease resistance or lodging resistance. These are factors that are of importance in the development of new varieties and consequently received the greatest attention.

Among the mutation types that could be classed as merely curiosities or abnormalities were the following: Chlorophyl deficiencies, white, yellow and pale green; changes in leaf shape and texture, rugose, rugose elongate and glabrous; changes in plant habit from dwarf to tall (internode length); mutation from purple to white blooms; steriles and semisteriles; changes in maturity from early to very late; much variation in size and quality of seed; variation in eye color from none to black.

Most of the above mutations bred true. Rugose, rugose elongate, white bloom, yellow leaf color, brachitic, tall and differences in maturity bred true in 1952 and 1953.

A considerable number of plants were selected in 1951 which showed promise from the standpoint of increased vigor or greater shatter resistance and in some cases both. Some of the lines produced from these plants in 1952 continued to show promise, and 11 of them were harvested and included in the soybean variety test in 1953. Of these 11 atomics, only one made a yield significantly higher than Dortchsoy 2. Not one of these 11 atomics was like Dortchsoy 2 in all respects. Maturity varied from Oct. 8 to Nov. 7, with Oct. 15 normal for Dortchsoy 2. Oil content varied from 19.2 percent to 21.4 percent with the normal being 20.3 percent. Percentage of beans per total dry matter varied from 35.3 percent to 43.7 percent with 41.0 percent being normal. Bean size varied from 4.1 to 8.9 per gram. Dortchsoy 2 had 5.2 beans per gram. Eye color varied from none to dark brown. Dortchsoy 2 has no eye color or occasionally only a very light brown. Shattering at 30 days after maturity varied from 9 percent to 50 percent with 25 percent being normal for Dortchsoy 2.

The facts should be recalled that the seed originally irradiated were from a very pure and uniform strain of Dortchsoy 2, so that any variation from normal for that variety must presumably be due to the effects of irradiation and such variation must be assumed to be due to either gene mutation or a chromosome aberration of one kind or another.

One of the most striking and interesting atomic types among those classified as curiosities is rugose elongate (photo), in which the leaflets are long and slender and recurved from both the sides and to some extent from the ends, and are also somewhat rugose. This type

ATOMIC "rugose elongate." The leaves of this type are slender and recurved and also somewhat rugose. This is a true breeding type.

has bred perfectly true for three generations. I included it in the variety test to observe how the yield would be affected by the altered leaf development and other factors. Rugose elongate yielded 58 percent as much as Dortchsoy 2 and also had much smaller seed and shattered much more severely. Thus it seems evident that in this type either several characteristics are modified by one mutation or that more than one mutation occurred in this instance.

In 1954 approximately one-third of the soybean breeding nursery will consist of atomics. This increase was brought about by having selected more than one plant from many of the better looking lines. It is my intention to place several more promising lines in the variety test in 1954. The results obtained to the present time are most encouraging and they indicate that much may be expected in the future from this mode of attack on the soybean breeding problem.

Smalley Awards Winners Named

BIFFLE OWEN, Planters Manufacturing Co., Clarksville, Miss., was first place winner in the soybean series of the annual Smalley collaborative check sample work, it was announced at the awards luncheon of the American Oil Chemists' Society meeting in San Antonio, Tex., Apr. 14.

Second place winner was E. H. Tenent, Woodson-Tenent Laboratories, Memphis, Tenn.

In the oilseed meal series M. C. Clark, Hartsville (S. Dak.) Oil Mill, was given the Smalley cup for first place in oil and nitrogen; and E. H. Hahn, Hahn Laboratories, Columbia, S. C., tied for second place with R. L. Pope, Pope Testing Laboratories, Dallas, Tex.

First place in oil was given to D. B. McIsaac, Kershaw (S. C.) Oil Mill; second place to M. C. Clark. On nitrogen there was a three-way tie among Pope, Clark and Hahn.

Purpose of the Smalley awards is to enable chemists to compare their work with other chemists. Practically all oilseed products are sold today on the basis of analyses.

C. E. Morris, production manager of the Armour & Co. refinery, Chicago, was elected president of the American Oil Chemists' Society for the coming year.

Other officers: W. A. Peterson, Colgate-Palmolive Co., Jersey City, N. J., vice president; R. W. Bates, North American Laboratory Service, Chicago, treasurer; and A. F. Kapecki, Wurster & Sanger, Inc., Chicago, secretary.

Members-at-large: H. C. Black, Swift & Co., Chicago; J. J. Ganucheau, Southern Cotton Oil Co., Gretna, La.; and J. C. Konen, Archer-Daniels-Midland Co., Minneapolis, Minn.

To Talk on Southern Soybean Processing

"CAN SOYBEANS Be Processed in the South Profitably?" will be discussed by Ralph Woodruff, manager of the Osceola Products Co., Osceola, Ark., at the annual Tri-States Oil Mill Superintendents Association convention at Biloxi, Miss., June 2.

Moderator of a discussion of the subject will be W. E. Hassler, Buckeye Cotton Oil Co., Memphis, Tenn.

The convention will be held at the Buena Vista Hotel in Biloxi, June 2 to 4, President Ralph Huneycutt, Planters Cotton Oil Mill, Pine Bluff, Ark., has announced.

Dr. John W. Dunning, V. D. Anderson Co., Cleveland, Ohio, will speak on "High Capacity Expeller Pressing of Cottonseed" June 3.

Other subjects to be covered include low cost unloading, expeller versus hydraulic press, and solvent extraction of cottonseed.

B. C. Lundy, Greenville Oil Works, Greenville, Miss., is general chairman of the convention. N. L. Pugh, Southern Cotton Oil Co., Newport, Ark., is program chairman. E. H. Tenent, Woodson-Tenent Laboratories, Memphis, Tenn., is entertainment chairman. And T. C. Guinee, Southern Engineering & Supply Co., Vicksburg, Miss., is finance chairman.

Plant Protein Best Corn Supplement

RECENT tests at the University of Illinois show that some animal proteins are not so valuable as plant protein to supplement corn in a pig's diet.

D. E. Becker, assistant professor in the swine division at the University of Illinois College of Agriculture, says that in past years animal products like tankage and fish meal have been credited with having high-quality protein when actually they were serving as a source of supplementary vitamins.

When an antibiotic mixture and vitamins were added, soybean oil meal proved to be much better than fish meal in supplying supplementary protein for corn in these tests. Becker gave a complete report on this experiment at the annual Illinois Swine Growers' Day program Apr. 15.

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Eisenhower and His Trade Missions

PRESIDENT EISENHOWER met members of the foreign agricultural trade missions before their departure for Europe, Asia and Latin America. Geo. M. Strayer, secretary of the American Soybean Association, and a member of the European group, stands seventh from left.

The agricultural leaders participating in President Eisenhower's foreign agricultural trade "missions" met with the President, Secretary Ezra Taff Benson and other government officials preparatory to their departure abroad Apr. 10.

The President first proposed the foreign trade studies in his farm recommendations to Congress Jan. 11. He called for a "series of trade missions"—to Europe, Asia and Latin America— "to explore the immediate possibilities of expanding international trade in food and fiber."

More than 30 trade groups are working with the U. S. Department of Agriculture in an effort to expand foreign sales.

Midsouth Shippers Association Set Up

THE MIDSOUTH Soybean and Grain Shippers Association was formed Apr. 14 in Memphis, Tenn., by a group of country shippers from Missouri, Kentucky, Tennessee, Arkansas, Louisiana, and Mississippi.

Jake Hartz, Jr., Jacob Hartz Seed Co., Stuttgart, Ark., served as chairman of the meeting which was called because of the general dissatisfaction by country shippers in the Midsouth area. The main points of dissatisfaction that caused the forming of this new association were:

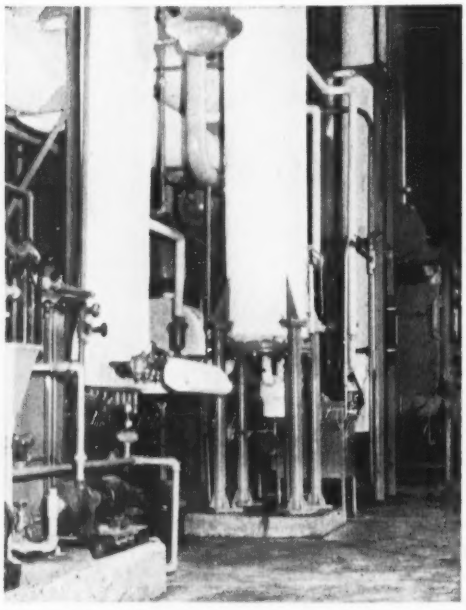
1—The exporters' scale of discounts on soybeans,

2—The long delay between the arrival of cars at the ports and sampling, and

3—Weights and grades at the ports.

A committee was selected by the men attending the meeting to set up the formal organization and at the same time direct the activities of the association in contacting the necessary person concerning discounts, weights and grades.

The following committee was selected: Paul C. Hughes, Farmers Soybean Corp., Blytheville, Ark., chairman; W. L. Davidson, Kennett Grain & Seed Co., Kennett, Mo., secretary-treasurer; E. R. Putman, Jr., S. & S. Storage Co., Charleston, Mo.; W. J. Angelo, Angelo & Bronte, McCrory, Ark.; H. T. Goldman, Jr., Goldman Equipment Co., Waterproof, La.; John C. Terral, Terral-Norris Seed Co., Lake Providence, La.; J. P. Critz, Clarksdale Grain Elevator, Clarksdale, Miss.; H. M. Jordan, Jordan Seed Co., Cleveland. Miss.; Cecil Moss, Tennessee Soybean Co., Union City, Tenn.; and Gene Williamson, Browder Milling Co., Fulton, Ky.



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What Are Top Yields?

(Continued from page 11)

tural Experiment Station, Waseca. "Weed control, both by cultivation and chemical means, should be more thoroughly explored. In general, yields have been proportionate to the grower's ability to control competition."

Hodgson believes average yields could be stepped up 10 or 15 bushels if weeds could be eliminated.

Hartwig says the following work is under way at Stoneville in an effort to stabilize yields in the area at a 30-to-40-bushel level:

1—Finding the optimum date of planting.

2—Improvement of seed quality.

3—Ascertaining best methods of planting in heavy clay soil.

4—Development of disease-resistant and shatterproof varieties.

Beeson and Probst stress the need of mechanical equipment especially designed for soybeans. They say machinery so designed is not now widely used. And Strayer points out that no manufacturer now offers a quickly detachable soybean cultivator.

Which takes us into the field of economics. Will it pay to have a separate set of equipment for each crop?

Yields could be boosted to a much higher level with our present "know-how" if price relationships between various farming enterprises favored soybeans. In other words, if it paid better to take the necessary steps to produce higher yields we would have them.

Job For Extension

There is a big job for extension men here, to close the wide gap that exists between present-day "know-how" and accepted practices. The average yield of soybeans could undoubtedly be increased substantially in a very short time if a sufficiently vigorous extension program were to be initiated in the major producing states. And this would spur research men on to greater effort to keep ahead of farmer acceptance.

But even with the best production practices now known there is little chance of producing 70-bushel yields consistently.

The Illinois yield contest always brought in top yields of about 50 bushels per acre. Harvey Stiegelmeier at Normal is probably one of the most consistent producers of high yields in that state. He applied all the "know-how" that he could obtain from research findings and once he nearly reached 60 bushels. More often his yields have been near the 50-bushel level and this seems to be about the top under Illinois conditions.

Research. So after we have applied the best knowledge available and perhaps doubled our average yields, we will have to return the problem to our experiment stations and other research men if we are to reach still higher yields.

As Cartter says, "The next major advances will largely depend on the development of new principles through fundamental research."

The questions to be solved by research men in connection with the soybean crop are almost endless. And research needs to be stepped up.

Says J. W. Calland of the National Soybean Crop Improvement Council: "Soybeans will this year be occupying 18 to 20 million acres of our best land, and our present research program was set up for 50-million-bushel production.

"A lot of research needs to be done on the soybean plant before yields can be moved up to five times average production. This work hasn't been done. We will be a long time getting this information unless we can sell Congress on appropriating the necessary increase in funds."

IT PAYS TO INOCULATE SOYBEANS EVERY TIME

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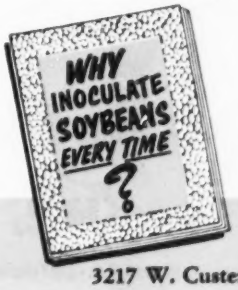
Soybean bacteria left in the soil often die out between planting seasons. Some Illinois farmers last year found that fresh NITRAGIN inoculation on old soybean land paid up to $11.51 an acre. It only takes a couple of minutes and about a dime an acre to inoculate soybeans with NITRAGIN. So get NITRAGIN in the orange-colored can from your seed dealer and be sure to inoculate soybeans every time.



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Soybean Planting Under Way

WITH PLANTING well under way in Southern areas as the Digest went to press, it was still not clear how much the national planted acreage will vary from the 18 million or 12.4 percent increase forecast by the U. S. Department of Agriculture Mar. 1.

Most factors apparently were working for a somewhat larger acreage.

A limiting factor is lack of good seed and current high prices.

Farm stocks in most states are more than adequate to meet normal seeding requirements, according to USDA. But in some areas stocks are low and more seed than usual will have to be bought from off-farm sources to plant the expanding soybean acreage.

For later crop information see Late News section.

Spot reports from Soybean Digest crop reporters:

Arkansas. L. M. Humphrey, R. L. Dortch Seed Farms, Scott (4-19): Increase of cotton allotments will reduce acreage but good price is favorable to good acreage. Much of the seed has very low germination—50-70 percent.

Paul C. Hughes, Farmers Soybean Corp., Blytheville (4-20): Plenty of seed in this area. We are buying leftover seed beans.

Illinois—Albert Dimond, Lovington, (4-20): As planting time approaches more will comply with corn allotments, but more oats have gone in than for years and increase in beans will be moderate.

Robert W. Weitzer, Valley Farms Co., Carrollton (4-21): Many farmers will plant 60 percent germination seed. Not enough good quality seed available and prices too high.

Indiana. K. E. Beeson, extension agronomist, Lafayette (4-21): Some land intended for oats might go to soys. Scarcity of high quality soybean seed and price may be discouraging factors in any late shift from corn to soys. Rains rather general in Indiana during April.

Chester B. Biddle, Remington (4-21): Demand for viable seed never in my experience so great. Not able to purchase blue tag beans for any price. Producers are asking about selling next fall's crop September and October delivery.

Louisiana. Mark H. Brown, Lake Providence (4-19): Fifty percent acreage increase over last year at this date. Most cotton open land will go to beans.

Mississippi. W. T. McKinney, Anguilla (4-19): Considerable part of diverted cotton acreage going into beans. Because of severe deficiency in subsoil moisture extra early planting was done. Beans now up to good stands. Some being culitivated. Without additional rains full yields cannot be expected.

Missouri. H. V. Seeburger, St. Charles (4-21): If we don't get moisture it will be hard to raise a crop this year.

Ohio. D. G. Wing, Mechanicsburg (4-21): Good corn planting weather will decrease soybean acreage. Farmers just finding out seed is scarce. Subsoil still dry although ditches are running.

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Another Raise in 1953 World Estimate

WORLD soybean production in 1953 is now placed at 664 million bushels according to the revised estimate of the U. S. Department of Agriculture's Foreign Agricultural Service.

This is an increase of 10 million bushels from the preliminary forecast due to increases in official estimates of U. S. production.

The 1952 crop of 674.2 million bushels was an alltime high.

It now seems likely that world production of soybeans could increase significantly in 1954. Canadian acreage probably will expand. In fact, Canadians expect that in 10 years Ontario soybean output may reach 20 million bushels, compared to 4.4 million bushels in 1953.

Acreage in the U. S. will expand. And, with an indicated shortage of edible oils in China-Manchuria, acreage to soybeans in that area of the Far East could be expected to maintain at least the 1953 level.

SOYBEANS: Acreage and production in specified countries and the world, averages 1935-39 and 1945-49, annual 1951-53 1/

Continent and country	Acreage 2/		Production	
	1952	1953 3/	1952	1953 3/
	1,000 acres		1,000 bushels	
North America				
Canada	172	216	4,128	4,406
United States 4/	14,333	14,355	297,052	272,341
Europe				
Italy	2	2	51	33
Yugoslavia	.....	.....	.....	.....
Other Europe	95	97	482	578
U.S.S.R. (Europe and Asia	.....	.....	.....	.....
Asia				
Turkey	7	.....	110	.....
China proper (22 provinces)	.....	.....	200,000	220,000
Manchuria	7,400	8,200	125,000	134,000
Indonesia 5/	971	.....	9,700	.....
Japan	1,013	1,043	19,161	15,315
Korea 6/	590	.....	4,135	.....
Taiwan (Formosa)	.....	.....	551	500
Thailand	59	.....	776	.....
South America				
Brazil 7/	148	148	2,862	3,070
Africa				
Tanganyika	.....	.....	56	49
Union of South Africa	.....	.....	110	.....
Total excluding "Other Europe," U.S.S.R., Chinese Mainland and North Korea	17,460	17,580	340,420	301,190
World total 8/	38,210	40,625	674,160	664,025

1/ Years shown refer to years of harvest. Southern Hemisphere crops which are harvested in the early part of the year are combined with those of the Northern Hemisphere harvested the latter part of the same year. 2/ Figures refer to harvested areas as far as possible. 3/ Preliminary. 4/ Acreage harvested for beans. 5/ Java and Madura only. 6/ Beginning with 1948 figures represent South Korea only. 7/ Rio Grande do Sul and Sao Paulo. 8/ Includes estimates for the above countries for which data are not available and for minor producing countries.

Foreign Agricultural Service. Prepared or estimated on the basis of official statistics of foreign governments, reports of United States Foreign Service officers, results of office research, or other information. Prewar estimates for countries having changed boundaries have been adjusted to conform to present boundaries except as noted.

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PUBLICATIONS

For a complete list of books on the soybean crop and industry and related subjects drop a postcard to Circulation Department, Soybean Digest, Hudson, Iowa. Copies of books and other publications listed on our pages will be obtained for readers when requested, if possible.

WEEDS. Farmers can now order a new publication with descriptions and pictures of over 200 weeds common to the North Central area.

Circular 718, Weeds of the North Central States, is designed to aid farmers in identifying weeds. A simplified botanical key is included.

The 240-page bulletin represents the joint efforts of 13 agricultural experiment stations and the USDA. Price is 75 cents a copy.

For a copy of Circular 718, write to the experiment stations of any of the following states:

Ohio, Wisconsin, Indiana, Michigan, Illinois, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas or Oklahoma.

COTTONSEED MEAL. A research program is under way at the Southern Regional Research Laboratory to develop means of producing economically and regularly cottonseed meals that will be suitable for unrestricted use in poultry feeds.

At the present time cottonseed meal is of variable value for poultry depending on composition of the seed and conditions of processing.

THE EFFECT OF PROCESSING CONDITIONS ON THE NUTRITIVE VALUE OF COTTONSEED MEAL FOR POULTRY—A REVIEW. By A. M. Altschul, Southern Regional Research Laboratory, New Orleans, La. Poultry Science, Vol. 33, No. 1, January 1954, pages 180-185.

MISCELLANEOUS

FURROW IRRIGATION. Leaflet No. 144. Soil Conservation Service, U. S. Department of Agriculture. Price 5 cents. For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.

2, 4-D FOR WEED CONTROL IN FIELD CROPS. By J. D. Furrer. E. C. 198, January 1953. Extension Service, University of Nebraska, Lincoln, Nebr. Use on soybeans not covered.

TECHNICAL WORKING METHODS FOR ADDITIONS OF LECITHIN TO CHOCOLATE. By Bert Schultz. International Chocolate Review, 2, 41-42, 1953 (In German).

AN ELABORATION OF THE TOOTHPICK METHOD OF INOCULATING PLANTS. By A. A. Hildebrand, Science Service Laboratory, Harrow, Ontario. Canadian Journal of Agriculture Science 33: 506-507, September-October 1953.

SURPLUS ANIMAL FATS PROVE TO BE A VALUABLE SWINE FEED. By E. D. Derrick, T. N. Blumer, and W. L. Brown. A. H. 2. North Carolina Agricultural Experiment Station, Raleigh, N. C.

COMPETITION BETWEEN BUTTER AND MARGARINE. By Rex W. Cox. Bulletin 417. University of Minnesota Agricultural Experiment Station, St. Paul 1, Minn.

RESEARCHES ON THE NATTO. I. On the Heat Evolution of the Bacillus. II. The manufacture of the Enriched Natto. By Masahiro Nakano and Teruo Ohta. Food Research Institute Report, Japan. Vol. 8, June 1953, pages 18-19.

FEEDING

SAFFMEAL. An experiment to compare the relative value of 41-percent soybean oil meal, safflower meal and urea ("two-sixty-two") as sources of protein in steer fattening rations was conducted at the Wyoming substation at Torrington.

The lot receiving soybean oil meal was the fastest gaining lot, while the lot receiving "two-sixty-two" was the slowest. This may be accounted for by the fact that the "two-sixty-two" ration was lowest in TDN.

In cost per cwt. gain the "two-sixty-two" lot was the lowest, but only 13 cents per cwt. lower than the soybean lot. Those steers receiving saffmeal had the highest cost per cwt. gain. In cost per 100 pounds of TDN and crude protein, the "two-sixty-two" ration was the lowest and the saffmeal ration highest.

COMPARATIVE VALUE OF SOYBEAN MEAL, SAFFLOWER MEAL, AND UREA FOR FATTENING STEERS. By N. W. Hilston, Charles P. Stroble and Leon Paules. Mimeograph Circular No. 20. University of Wyoming, Laramie, Wyo.

FATS IN DIET. The need of young dairy calves for lipids was studied by feeding a "lipid-free" semi-synthetic milk containing casein, lactose, minerals and vitamins over a period of eight weeks in experiments at Iowa State College. Responses to various lipid supplements were evaluated.

Marked retardation of growth was observed after calves were fed the lipid-free diet for approximately three weeks. About half of the calves showed severe deficiency symptoms such as scaly dandruff; long, dry hair; excessive loss of hair; and diarrhea.

Lipids that prevented development of the deficiency symptoms or promoted prompt recovery were butter oil and hydrogenated soybean oil plus lecithin. Response to hydrogenated soybean oil alone was not so great as when lectithin also was supplied.

Average weight gain for the calves fed the lipid-free diet was 10.9 pounds for the full 56 days; for those fed the diet containing hydrogenated soybean oil, 30.3 pounds.

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Limited data indicate that the methyl esters of fatty acids also promote recovery.

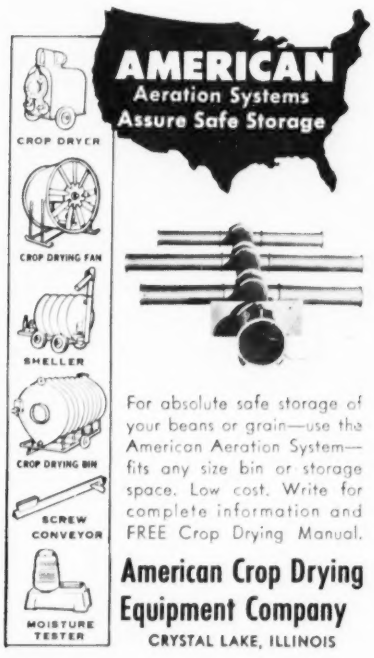
LIPID DEFICIENCY IN THE CALF. By M. R. Lambert, N. L. Jacobson, R. S. Allen and J. H. Zaletel. Journal of Nutrition, Vol. 52, No. 2, February 1954.

ANTIBIOTICS. There was no clear evidence that aureomycin enhanced the protein utilization of pigs in a Florida experiment.

The results of the experiment indicate that a corn-soybean oil meal ration well fortified with minerals and vitamins and containing 14.3 percent of crude protein was just as satisfactory for weight gains of healthy weanling pigs fed in drylot as rations containing 17.6 and 20.9 percent of crude protein.

THE INFLUENCE OF AUREOMYCIN ON THE PROTEIN REQUIREMENT AND CARCASS CHARACTERISTICS OF SWINE. By H. D. Wallace, M. Milicevic, A. M. Pearson, T. J. Cunha and M. Koger, Florida Agricultural Experiment Station. Journal of Animal Science, February 1954. Volume 13, No. 1, pages 177-183.

THE INFLUENCE OF CRYSTALLINE AUREOMYCIN AND VITAMIN B-12 ON THE PROTEIN UTILIZATION OF GROWTH-FATTENING SWINE. By J. E. Burnside, R. H. Grummer, P. H. Phillips and G. Bohstedt, University of Wisconsin. Journal of Animal Science, February 1954. Vol. 13, No. 1, pages 184-199.



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MISCELLANEOUS

THE RESPONSE OF YEARLING CATTLE TO A FATTENING DIET CONTAINING FIVE PER CENT ANIMAL FAT. By E. R. Barrick, T. N. Blumer, E. U. Dillard and W. L. Brown. A. H. 3. North Carolina Agricultural Experiment Station, Raleigh, N. C.

COMPARATIVE VALUE OF SOYBEAN MEAL, UREA, AND TRACE MINERALS FOR FATTENING STEERS. By Carroll Schoonover, Paul O. Stratton, N. W. Hilston, and Leon Paules. Mimeograph Circular No. 34, November 1953. University of Wyoming Experiment Station, Laramie, Wyo.

ADVANTAGES OF USING PELLETED FEED. By Prof. G. C. Ashton. Canadian Milling and Feed, December 1952. A complete report on advantages and disadvantages of using pelleted feed, as compiled from results of experimental tests across the country, with a bibliography of references to pelleting experiments.

USE OF SPECIAL PROCESSED SOYBEAN FLOUR IN FEEDS FOR YOUNG DAIRY CALVES. By J. F. Stein, C. B. Knodt and E. B. Ross. Pennsylvania Agricultural Station, State College, Penn. A report of a series of three experiments to evaluate the use of soy flour in a milk replacement.

ANIMAL FAT AS A FEED INGREDIENT. By O. H. M. Wilder, American Meat Institute Foundation. Paper presented before the Illinois Feed and Nutrition Conference at the University of Illinois, Urbana.

THE USE OF ANIMAL FATS IN LAMB FEEDING. By W. G. Kammlade, Jr., and O. D. Butler. Progress Report 1644. Texas Agricultural Experiment Station, College Station, Texas.

BUILDING BETTER SWINE FEEDS. By S. W. Terrill, University of Illinois. Paper presented at the Illinois Feed and Nutrition Conference, University of Illinois, Urbana.

—s b d—

Record Futures Trade

Trading in both crude soybean oil and soybean oil meal futures contracts on the Chicago Board of Trade set new high records on Tuesday, Apr. 20, when 987 contracts for crude soybean oil meal for future delivery were entered into on the Chicago Board of Trade.

Futures trading in crude soybean oil on this exchange was started July 17, 1950, and in soybean meal on Aug. 29, 1951.

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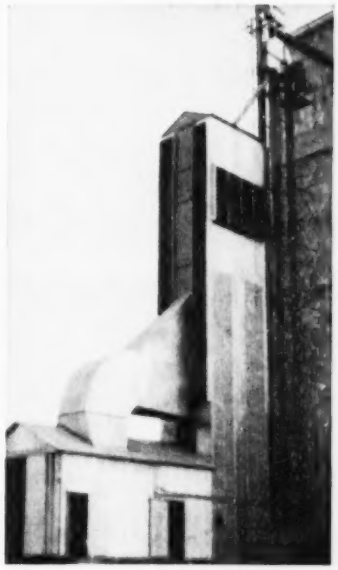

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GRITS and FLAKES . . . *from the World of Soy*

◆ Control of Churngold Corp. has been acquired by Shedd-Bartush Foods, Inc., Detroit, one of the largest manufacturers of margarine. Majority stock of the pioneer margarine firm in Cincinnati was purchased by the investment firm of J. F. Madigan & Co. for Shedd-Bartush.

◆ An ultra-modern "push button" feed mill will be erected by General Mills, Inc., adjacent to its soybean processing plant at Belmond, Iowa, to be operating by the end of the year. With an annual capacity of about 50,000 tons, it will be equipped to manufacture the company's full line of feeds. A pneumatic unloading system will be included. Practically all ingredients will be handled in bulk.

◆ A new sales division with headquarters at Atlanta, Ga., was established by the Ralston Purina Co., L. C. Stevenson, vice president and general sales manager, reports. Curt R. Severson is sales manager for the new division, which includes the north half of Georgia and adjacent counties in Tennessee, Alabama and South Carolina.

◆ *Oak B. Smith has been named general sales manager for the Wenger Mixer Manufacturing Co., Sabetha, Kans., coinciding with an expanded distribution program for the firm's pellet mills and molasses feed mixers.*

◆ J. I. Jackson has announced that he has sold his controlling interest in Fort Worth Steel & Machinery Co., Fort Worth, Tex., to Moroney, Beissner & Co. and associates of Houston. He will continue as president and general manager of the firm with no change in policies.

◆ H. C. Shelton has joined the firm of Laws & Overley, Memphis brokers in soybean and cottonseed products. He was formerly with Zimmerman Alderson Carr Co., and was recently released from a year's service with the Navy as an aircraft instructor.

◆ Charles P. Reid, Sr., chairman of the board of Marianna Sales Co., Memphis, soybean and cottonseed brokerage firm, died recently while visiting in Florida. He had been associated in the cottonseed products business since World War I, and was a past president of the Memphis Merchants Exchange.

◆ *Drackett Co.'s soybean extraction plant at Evendale, Ohio, has been partially shut down, reports Roger Drackett, president. Output is restricted to the firm's own needs for soybean oil meal.*

◆ Victory Mills, Ltd., Toronto, Ontario, has announced plans for expansion of its storage capacity in Toronto from 3.25 million bushels to 4.25 million bushels. The new elevator, to be built at a cost of $600,000, will handle soybeans and barley.

◆ Tom Rist has been named a feed territory manager for Pillsbury Mills, Inc., by G. R. Peterson, central region sales manager of the company's feed and soy division at Clinton, Iowa. He will be in charge of sales in east central Wisconsin with headquarters in Madison. He has had a number of years of experience selling for McMillen Feed Mills, Inc.

◆ Spencer Kellogg & Sons, Inc., Buffalo, has sold its 1-million-bushel grain elevator on the Buffalo River to the George J. Meyer Malt & Grain Corp. The elevator was used for flaxseed storage many years.

◆ W. J. Ray, assistant sales manager of the Indianapolis sales division,

Heads Dannen Branch

The appointment of E. T. Gumbert as manager of the new Dannen Mills branch at Omaha, Neb., was announced here this week by Dwight L. Dannen, company president. The Omaha branch, which will include warehouse facilities, will be formally opened May 10. It will be located at 36th and Elm streets in the stockyards district.

E. T. Gumbert

Mr. Gumbert comes to Dannen's from Tampa, Fla., where he has been manager of the Cargill, Inc., office. Prior to his three years with Cargill, he was a warehouse examiner for the U. S. Department of Agriculture for two years. He is the son of E. A. Gumbert, veteran grain man who is vice president of the grain jobbing division of Dannen Mills.

The new manager received his bachelor's degree in economics at Westminister College, Fulton, Mo., and his master's degree in marketing from the University of Chicago in 1949. He is a Navy veteran of World War II.

Dannen's, the largest soybean processor in the Missouri Valley, plans to purchase a seat on the Omaha grain exchange.

Inedible Fats Course

"Inedible Fats and Fatty Acids" is the subject of the sixth short course sponsored by the American Oil Chemists' Society. It will be held

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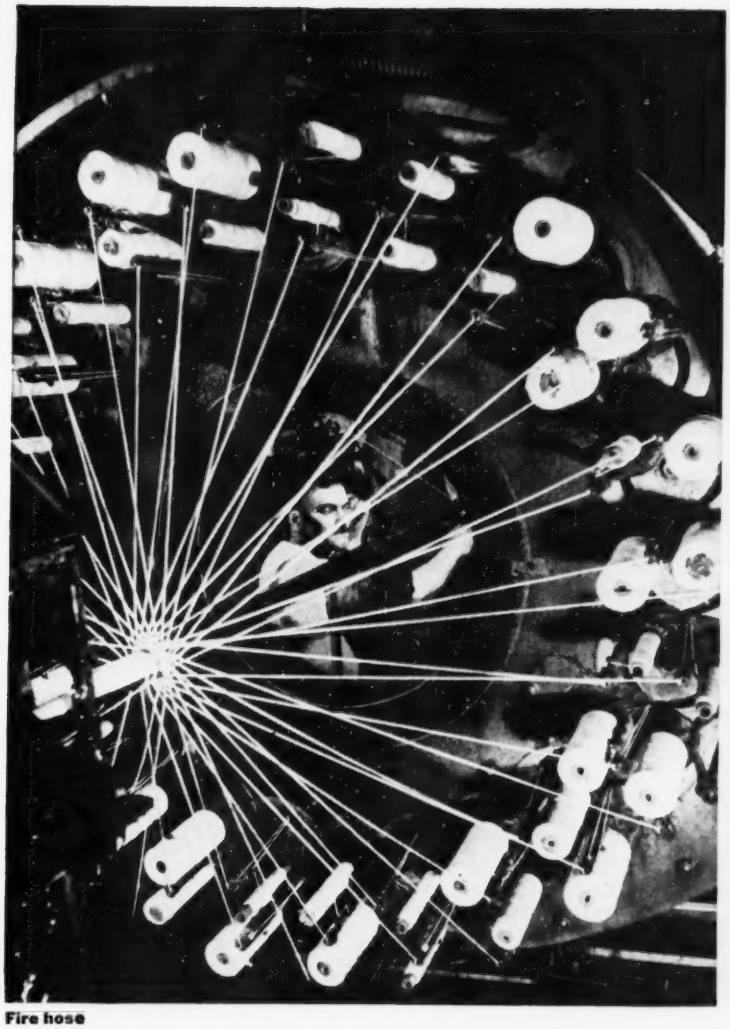

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Bemis Bro. Bag Co., transferred Apr. 1 to the company's general offices in St. Louis. He will be assistant to S. M. Spencer, supervisor of textile bag sales for Bemis. Mr. Ray joined Bemis in 1933 at Indianapolis.

◆ Sarwat Montassir, head of the vegetable soap and oil industries division, National Production Council and Department of Industry, Egypt, was a recent visitor at the USDA Southern Regional Research Laboratory, New Orleans, La. He was interested in securing the latest information on vegetable oil extraction and processing.

◆ "Foreign Trade Losses Hurt You!" is an article by Mississippi Congressman Frank E. Smith in April Progressive, discussing stake of U. S. farmers in foreign trade and damage done by restrictive trade policies.

◆ *Seymour Weinstein has been appointed technical director of Niagara Filters division, American Machine and Metals, Inc., East Moline, Ill. He was formerly central district sales manager for Niagara with headquarters in Chicago.*

◆ Dr. A. J. Dirksen has been appointed director of sales development for American Potash & Chemical Corp. He joined the firm early in 1953 and has been acting as eastern representative of the company's sales development department. He headquarters at the New York office.

◆ Institute of Food Technologists will hold its annual convention at the Biltmore Hotel in Los Angeles, Calif., June 27-July 1. For further information write Col. Charles E. Lawrence, national executive secretary, Institute of Food Technologists, 176 West Adams St., Chicago 3, Ill.

◆ H. W. Dahlberg, Jr., has been appointed assistant to Howard F. Roderick, vice president in charge of International Minerals & Chemical Corp.'s phosphate chemicals division, Chicago, Ill. He has been a member of the firm's research division since 1945.

◆ *John W. Evans, Montevideo, Minn., American Soybean Association director and former ASA president, was married to Lela Maxwell Simons at Seattle, Wash., Mar. 22. They will be at home at Easthome Farm, Montevideo.*

◆ Dannen Mills, Inc., St. Joseph, Mo., has sold two registered yearling Brown Swiss bulls from its research farm for export to the Dominican Republic. The country is acquiring the bulls as a step in improving and expanding its dairy herds.

◆ Lyman A. Meriwether, 47, general manager of the Taylorville, Ill., soybean plant of Allied Mills, Inc., died suddenly of a heart attack Mar. 27. Prior to July 1, 1953, he was superintendent of operations and was first employed by Allied Mills in 1932.

◆ The Freedom Foundation has awarded the George Washington honor medal to the tractor and implement division, Ford Motor Co., for its motion picture, "The Hope of Tomorrow," which it describes as "An outstanding achievement in helping to bring about a better understanding of the American way of life."

◆ *Edward A. Livingstone, vice president of the Babcock & Wilcox Co., has been elected to the board of directors; W. J. Thomas, general manager of the tubular products division, has been named a vice president of the company.*

◆ The Chase Bag Co. plant at Goshen, Ind., was visited recently by a team of eight prominent industrialists from West Germany, as part of a five-

at Lehigh University, Bethlehem, Pa., Aug. 15-20.

Topics to be included are economic and technological trends, recovery and handling of inedible fats and fatty acids, technology and applications of inedible glycerides, and production and application of fatty acids and derivatives.

Information about the short course may be obtained from the Society's office, 35 E. Wacker Drive, Chicago 1, Ill., or from the chairman of the short course committee, Dr. Daniel Stern, Eastern Regional Research Laboratory, Philadelphia 8, Pa.

Illinois Appointments

The board of trustees of the University of Illinois is expected to approve the appointment of Louis B. Howard, Tom S. Hamilton and Harold W. Hannah to top three positions on the staff of the University's College of Agriculture.

L. B. Howard

Howard, associate director of the Illinois Agricultural Experiment Station, is slated to be named dean of the College, director of the Experiment Station and director of extension service. He will replace Dean R. R. Hudelson.

Hamilton, head of the division of animal nutrition, is expected to be named associate director of the Experiment Station to replace Howard.

Hannah, professor of farm law in the department of agricultural economics, is being presented for board approval as associate dean of the College.

The appointments become effective Sept. 1.

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HERE IS HOW Cargill helps get your grain into a more usable form. First, your grain goes to a country elevator—perhaps one of Cargill's. Then, it is shipped (with your neighbor's grain) to a terminal elevator—again perhaps one of Cargill's. Finally, your grain is likely to go to a processing plant, where 75% of all farm products end up to be made into things to be eaten or used.

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Processing Plants and Grain Marketing Offices in Minneapolis and 45 other cities

PRODUCT OF Cargill CREATIVE PROCESSING

This is how Cargill is telling the importance of processors to farmer-readers of papers like The Farmer, Wallaces' Farmer, Dakota Farmer, Montana Farmer-Stockman, etc.

week study of leading paper processing and packaging plants in this country. The tour is being conducted by the U. S. Foreign Operations Administration. Purpose of the tour is a study of American methods to effect lower costs and higher productivity in West German plants.

◆ Frank A. Weil has been appointed southern representative for Blaw-Knox Co.'s chemical plants and Buflovak equipment divisions. He will be located in the Birmingham office and will serve the five-state area of Alabama, Florida, Georgia, Mississippi and South Carolina. He has been with chemical plants division for seven years as principal process engineer and supervisory process engineer.

◆ Little Giant Products, Inc., Peoria, Ill., has purchased the complete line of row-crop sprayers formerly manufactured and sold by Kupfer Products, Inc., Madison, Wis. All facilities have been moved to Little Giant's Peoria plant, and the sprayers are now in production.

◆ *Bulletin No. 903-A of chemical products division, Archer-Daniels-Midland Co., 2191 West 110th St., Cleveland, Ohio, lists the firm's complete line of fatty alcohols and gives data on them.*

◆ Creation of a new feed ingredient sales department within the phosphate chemicals division of International Minerals & Chemical Corp. has been announced. It will incorporate the former feed phosphates department. Gladwin A. Read, formerly sales manager of the feed phosphates department, has been made manager of sales development.

◆ Mrs. Tucker's Products, Sherman, Texas, has installed a complete pilot plant for the study of mellorine and frozen desserts. Project will be conducted by E. M. Deck of products service department. Plant will be in charge of Charles Galyen, a graduate in dairy technology at the University of Missouri.

◆ William H. McEnally has been appointed sales manager of the standard products division of the Fairfield Engineering Co., Marion, Ohio. Firm markets a complete line of feed mixers, hammermills and bulk bins.

◆ *A detailed flow sheet of the refining, deodorization, hydrogenation and related operations of the modern plant of Mrs. Tucker's Products at Jacksonville, Ill., appeared in March 1954 Food Engineering.*

◆ Dr. Cloy B. Knodt, professor of dairy husbandry at Pennsylvania State University, has been appointed cattle specialist at General Mills' Larro Research Farm. He has won wide recognition for his work with the feeding and management of dairy calves and for his studies in the field of ruminant nutrition.

◆ At the annual meeting of the Chicago Association of Grain Commission Merchants, J. Orville O'Neill of Shearson-Hammill & Co. was elected president to succeed Robert H. Gardner. Other officers elected were: Richard L. Kennedy, Jr., Harris Upham & Co., vice president; Edward F. Thompson, Jr., Lamson Bros. & Co., treasurer; and Leonard J. Paidar, Goodbody & Co., secretary. Newly elected directors were Kennedy, Myron Ratcliffe and William E. Ferguson.

◆ Brown-Allen Chemicals, Inc., Staten Island, N. Y., announces the appointment of M. B. Sweet, 9100 S. Park Ave., Chicago, as its agent in that city. Julius A. Baggiani will be in charge of specialty oil sales for M. B. Sweet. Products include paint vehicles, lithographic oils, caulking oils and foundry core compounds.

The Day Co. Expands

The Day Co., Minneapolis, Minn., one of the nation's largest manufacturers of dust control and bulk material storing and handling equipment is expanding production facilities with the purchase of a factory building at 1153 16th Ave., S. E.

A. B. Osgood

A. B. Osgood, president of the Day Co., states that the new facilities provided by plant number two will be used to manufacture equipment for their custom-built dust control systems.

New Pillsbury Branch

A Pillsbury feed and soy branch operation will open this month in East St. Louis, Ill., to expand and improve formula feed service to Pillsbury's Illinois and Missouri dealers in that area, it was announced by Clyde H. Hendrix, Pillsbury Mills, Inc., vice president, and head of the company's feed and soy division.

"Increased business in Illinois and Missouri has necessitated this move," Hendrix stated. This is the third expansion in feed facilities announced by Pillsbury within the past several weeks.

The building which Pillsbury has leased to house the new branch office and distributing facilities is located on First Street about one block north of the main entrance to the National Stock Yards. "Truckers coming to this famous market will be able to take advantage of 'backhaul' loads," Hendrix said. The branch facilities will serve all Pillsbury dealers and customers within a radius of 150 miles of St. Louis.

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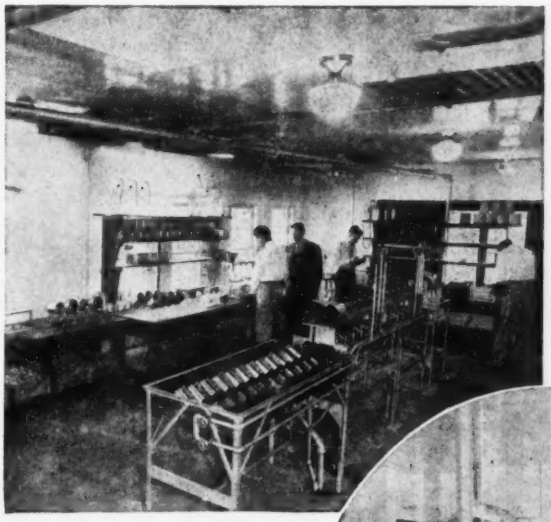

The Chicago, Ill., laboratory is equipped with the most modern equipment for refining soybean oils.

The Des Moines, Iowa, laboratory with all the latest equipment for refining oils.

The Oil Refining Department at the Memphis, Tenn., laboratory, with a capacity of 150 refinings daily.

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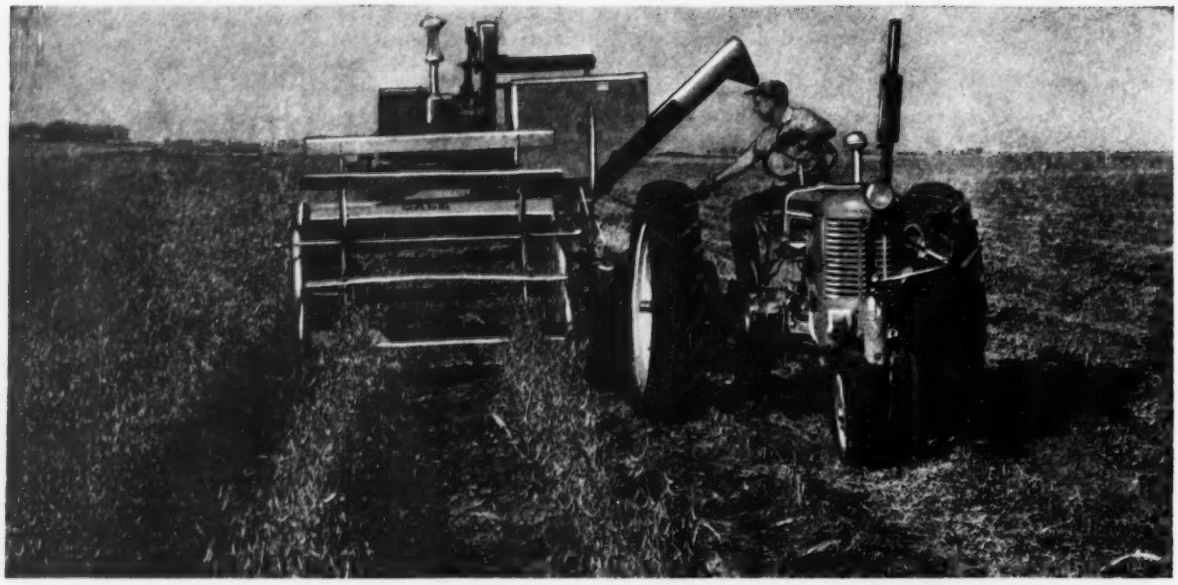
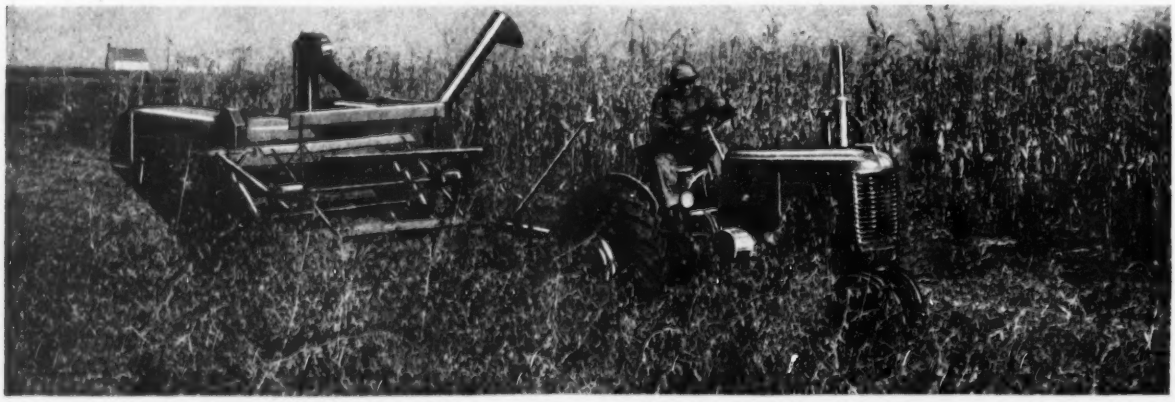


CAN'T BE BEAT in BEANS

Watch a Case Combine in soybeans. Notice how briskly it steps along, even when the going is tough. Scoop a handful from the bin. You've never seen cleaner beans with less cracking. Search the ground behind the combine . . . see how it has gobbled up about everything. The operator will tell you how nice the Case Combine runs, how quick and easy it is to adjust, how satisfactory all around. Check with soybean buyers. You'll find that many prefer Case-threshed beans because they're clean and whole. Ask around any farm neighborhood. Chances are you'll hear stories of Case Combines saving crops too tough for others. J. I. Case Company, Racine, Wisconsin.

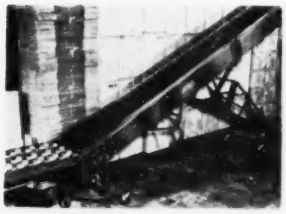


"Built like a threshing machine" with rugged steel cylinder, extra-long straw rack, and incomparable Case Air-Lift Cleaning, the six-foot Model "A" (top) is America's favorite. On the PTO of an economical 2-plow tractor like the Case "VAC," the Case 5-foot "F-2" Combine (bottom) is outstanding. They can't be beat in grains and seeds, either.

CASE

NEW PRODUCTS and SERVICES

CONVEYOR. Lightweight construction of Seedburo's Model "R" Aluminum Hytrol Conveyor provides portability not usualy found in standard conveyors. Now, with low cost attachments available for all Model "R's", old and new, additional conveyor advantages can be obtained.



A hydraulically-operated, adjustable undercarriage allows raising or lowering the top end of the Hytrol to the exact position desired, from 5 to 35 degrees. A roller carriage mounted at the feeder end of the Hytrol adjusts from 18 to 35 inches. Both carriages are equipped with four-inch, swivel steel casters for easier moving.

In addition, a gravity feeder section is available for mounting on either end.

For further information write Soybean Digest 5c, Hudson, Iowa.

GRAIN BIN. Butler Manufacturing Co.'s introduction of an improved grain bin is timed with expected larger harvests in 1954.

The new bin incorporates such features as longer body sheets for faster, easier erection, all bolted construction backed up with new weather-sealed washers that insure positive protection against moisture.

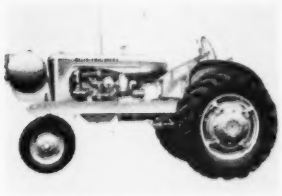
Extra strength has been built in where it is most needed, such as the heavier, wider door that can be tightly closed and locked with two heavy-duty door latches, in place of the usual one, to insure a tightly-closed and sealed bin.

To speed up the handling problem, the new Butler bin has a weather-sealed door in the roof. When the grain is ready to be stored all that's necessary is to turn the door handle and open the roof door. After the bin has been filled, close the door and securely latch by turning the door handle.

For further information write Soybean Digest 5d, Hudson, Iowa.

GAS CONVERSION. Liquid petroleum conversion for the Power-Crater engine in the WD-45 tractor is announced by Allis-Chalmers.

Equipment for operating the WD-45 on L-P gas is installed at the factory. A combination carburetor is used for either gasoline or L-P fuel.



The fuel tank is mounted in front of the radiator. Outward appearance of the tractor is not altered nor is the operator's vision impaired.

For further information write Soybean Digest 5c, Hudson, Iowa.

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The Prater Rotary Airlock Feeder links your processing operation into a tightly-knit, smooth running circuit. It seals off the bottom discharge of dust collectors, preventing air from leaking into the collector and feeding dust out of the system as it is collected. It is also used to feed granular materials into the processing equipment against pressure—**at a pre-determined rate!**

If you're converting to the solvent method of extraction, be sure to include the Prater Pulverizer and Prater Rotary Airlock Feeders as part of the system. With them, Prater offers years of experience serving the soybean industry, plus up-to-date recommendations to make your operation satisfactory in every respect.

The Prater Rotary Airlock is built in two sizes, 8" and 10" requiring ⅓ HP and ½ HP respectively. It is furnished as a complete "package unit" or may be purchased without motor.

Write today for free new bulletin.

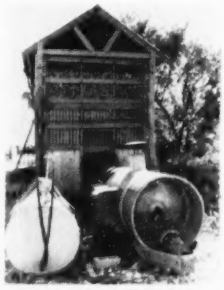
PRATER

PRATER PULVERIZER COMPANY

1527 S. 55th Court . Chicago 50, Illinois

CROP DRYER. Lennox Furnace Co. has entered the crop drying field with a unit known as the "Cropmaster," which it is distributing nationally.

In the Cropmaster, as in all Lennox heating equipment, safety is one of the top engineering features. Special new safety controls—including electric eye shut-off—are incorporated in the new equipment.



An exact balance of heat and air volume is essential for efficient drying at minimum fuel and power cost. This precise heat-air ratio is available in the Lennox Cropmaster.

A primer, explaining the advantages and techniques of crop drying, has been prepared by Lennox engineers with the assistance of the Department of Agriculture and several agricultural schools. For a free copy write Soybean Digest 4h Hudson, Iowa.

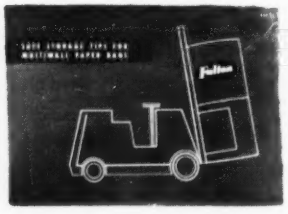
STEEL STRUCTURES. The Brookville Manufacturing Co. is now manufacturing and supplying all-steel fully-insulated structures of a design similar to the Universal buildings formerly produced and sold by Blaw-Knox Co.

The Brookville firm has also completed arrangements to meet the future servicing and expansion needs of users of existing Blaw-Knox Universal buildings.

Paul L. Erdner, president of Brookville Manufacturing, says all of the popular features of the Universal buildings have been retained in Brookville designs, and improvements in the matter of flexibility for future expansion have been added.

For further information write Soybean Digest 5e, Hudson, Iowa.

BAG CARE. A booklet outlining a series of helpful tips on the care and storage of multiwall paper bags has been issued by Fulton Bag & Cotton Mills. The manufacturer feels that valuable time and unnecessary expense can be saved by multiwall paper bag users if they will follow these tips.



For further information write Soybean Digest 5a, Hudson, Iowa.

GRAIN STORAGE. How to avoid grain losses due to insects and rodents is the subject of a new informative folder published by the Douglas Chemical Co., manufacturer of grain sprays and fumigants.

This handy guide to better storage practices gives actual figures to show exactly how much infestation can cost in cold cash. It then lists and illustrates the insects that cause most of the serious damage to stored grain and describes simple, practical, step-by-step methods to eliminate that damage and the resulting losses.

Ask for "How to Protect Farm Stored Grain for Greater Profits." Address Soybean Digest 4b, Hudson, Iowa.

SPRAYER. An all-purpose farm sprayer designed to apply liquid nitrogen solutions (non-pressure type) and for weed and insect control has been developed by the Broyhill Co.

The new sprayer can be mounted either on a rugged Broyhill trailer or the tractor itself. One of the features is the four-way hinge flexibility of the 21-foot aluminum spray booms. The booms are folded when traveling.

For further information concerning this unit write Soybean Digest 4e, Hudson, Iowa.

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BOLTED STEEL GRAIN TANK

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He can help you build storage facilities now to take advantage of fast tax amortization and storage-use guarantees. Butler bolted steel grain tanks meet the requirements of the U.S.D.A. Commercial Storage Program.

You can have Butler bolted steel grain tanks up and ready to fill weeks ahead of other types of construction. Butler's precision-formed and punched steel sections—plus the construction experience of your Butler contractor's crew—make erection quick and easy.

Fast erection, teamed with the low initial cost of Butler tanks, helps cut your per-bushel cost of permanent storage facilities. Low upkeep of Butler bolted steel grain tanks means further savings. The tank sections are sealed and bolted firmly to assure years of fire-safe, weather-tight storage. A two-coat bond on the heavy-gauge steel sections guards against rust and corrosion.

See your Butler contractor right away! He'll plan new facilities to match your exact needs. And he'll give you a price on a *complete* installation—with Butler bolted steel tanks for fire-safe, low-cost grain storage. Write for the name of your nearest Butler contractor and free folders by mail.

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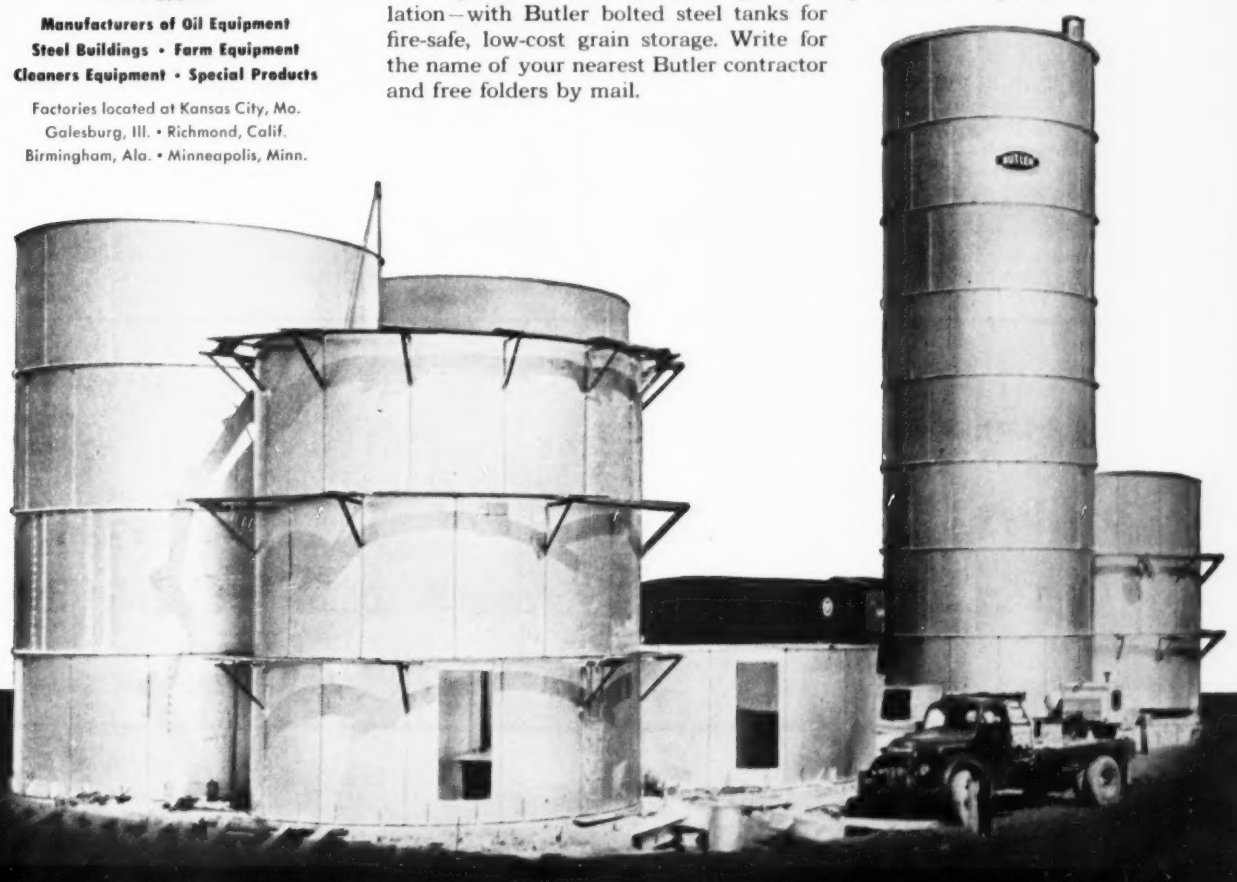

WASHINGTON DIGEST

Look for Large 1954 Exports

By PORTER M. HEDGE
Washington Correspondent for
The Soybean Digest

OUTLOOK. The soybean industry is moving toward a level of production well above 300 million bushels a year. A crop of around 340 million bushels is in prospect for 1954, based on farmers' intentions to plant in March.

The question is, can such a high level of production be maintained on a profitable basis to growers?

The answer appears to be an emphatic yes, but depends at least in the next few years on further development of the soybean export market.

It looks like exports during the current season might total, if not exceed, 45 million bushels. But in the opinion of several experts here this is only the beginning of an expansion in the foreign market for soybeans.

These officials believe that exports during the 1954-55 marketing year of 75 million bushels are not only possible, but are probable if the crop is as large as now anticipated.

They point out that foreign customers are now accustomed to U. S. soybeans. Our prices so far have been competitive in most markets—even the relatively high prices of the current season.

Some bean men feel that within a few years there is a potential foreign market for as many as 100 million bushels of beans a year.

Even with a crop as large as 340 million bushels, the price outlook for the 1954-55 marketing season appears to be pretty good. Under such conditions, prices to growers would be expected to drop below the loan rate of $2.22 a bushel during the harvest peak.

At the same time, export and processor buying would be expected to start fairly early in the season, and a large volume of beans would go under price support. Nearly 32 million bushels went under support this season, though practically all of this was redeemed by the first of April.

With exports anything like 75 million bushels, prices would move above the loan rate as the marketing season developed.

DROUGHT. Discussion of prospects for a large crop of beans this year could be academic if the drought situation worsens.

Weather Bureau is enough concerned about drought that it has issued a second national weather bulletin summarizing current drought conditions and showing charts illustrating the drought pattern of 1936.

The main point the bulletin brings out is that a drought started during the winter may recur the following summer after temporary relief in May.

The Weather Bureau doesn't predict drought for the coming summer. But its charts for 1936 show that the dust bowl area in the summer of 1936 had normal or above normal rainfall during May of that year.

BUTTER. Details of the Commodity Credit Corporation butter disposal program still were not settled last week, though several decisions had been made.

One is that the pilot disposal program has been discarded. When USDA begins to move its butter surplus, disposal operations are to be on a national scale.

Another is that officials are pretty well agreed a big part of the surplus will have to be moved into the export market. One top official has said that the plan tentatively agreed on is to offer as much as 150 million pounds of the surplus to foreign buyers as soon as the program starts.

It appears that countries behind the Iron Curtain, and particularly Russia, would offer the most promising market for surplus butter. One reason is that Russia needs butter and wants it. Another is that any attempt to unload the U. S. surplus to Western European countries would tend to upset her regular suppliers, including New Zealand.

There's considerable disagreement among the experts as to the effect of lower butter prices on use of margarine. Recent butter price cuts to as low as 59 cents a pound are not believed to have cut into margarine use to any appreciable extent.

COTTONSEED OIL. Officials are now pretty well convinced that the trade will need to purchase back a part of the CCC stocks of cottonseed oil—perhaps as much as 100 to 150 million pounds.

Prices of cottonseed and soybean oil have approached the 15-cent-minimum domestic sales price for cottonseed oil. It's believed that the 15-cent minimum, crude basis, will act as a ceiling and prevent oil prices from going on up.

Some domestic users have already expressed interest in CCC oil. Officials say there is no need to rush in

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to buy, since users can obtain all they will need at the 15-cent price, with adjustments for refining, location and quality.

SKIM MILK. CCC is moving its surplus dry skim milk stocks into feed channels ahead of harvest of the soybean crop.

Purchases of CCC dry skim milk must be made before Sept. 1. The milk must be mixed in animal or poultry feeds before Nov. 1, and must be certified as used in addition to normal purchases.

USDA has a little over 589 million pounds of dry skim milk in stock now—close to 300,000 tons. The sales price for feed is 3½ cents a pound in most states; 4 cents in seven western states. Acquisition cost was 16.73 cents.

Announcement of the program says USDA "does not believe the sale of CCC-owned dried milk for feed use will seriously affect the market for other feed supplements. The dried milk will be used largely to make up for the current shortage of soybean meal, before the new crops come in.

"It has been estimated that production of soybean meal in the 1953-54 year will be around three-quarters of a million tons below the production a year earlier, and the effects of this reduction will be especially pronounced during the April-September period.

STORAGE. USDA officials are not anticipating any great difficulty with soybean storage this fall, in spite of the outlook for a large crop of beans. This doesn't mean officials aren't conscious that there might be a storage problem. However, they have no specific plans for obtaining additional soybean space.

It's recognized that in the heavy producing corn and soybean states storage will be a problem next fall if there is a good corn crop. However, even the extent of plantings is uncertain as of now, to say nothing of uncertainties about drought.

Should a shortage develop in states like Illinois and Iowa, it's probable USDA will purchase still more steel bins for storage, principally for corn. The thought is that if the corn crop is adequately taken care of, the grain and oilseed crops in big corn states will find enough space.

CCC has just bought 100 million bushels of new bin capacity. All of this is intended for the Plains wheat area. Approval has been given to construction of approximately 200 million bushels of new elevator storage capacity, though it's doubted that not more than 100 million bushels of this will be available by next fall. Practically all the new elevator storage being built under the CCC occupancy guarantee program also is in the Plains states, rather than in the main corn and soybean belt.

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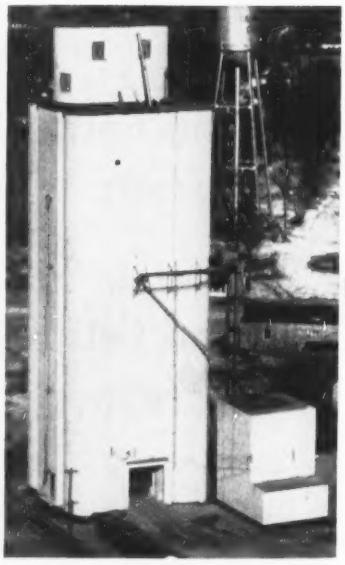

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IN THE MARKETS

● **FACTORY USE VEGETABLE OILS** for January and February as reported by Bureau of the Census. (1,000 lbs.)

PRIMARY MATERIALS: FACTORY PRODUCTION AND CONSUMPTION, AND FACTORY AND WAREHOUSE STOCKS, FEBRUARY 1954-JANUARY 1954

Primary materials	Factory production		Factory consumption		Factory and warehouse stocks	
	Feb. 1954	Jan. 1954	Feb. 1954	Jan 1954	Feb. 28 1954	Jan. 31 1954
Cottonseed, crude	207,447	234,465	202,671	198,827	184,165	183,105
Cottonseed, refined†	188,791	183,279	141,894	131,421	1,177,790	1,152,554
Peanut, crude§	10,895	6,651	4,053	4,223	6,028	4,241
Peanut, refined	3,846	3,950	2,734	*2,654	4,326	*5,254
Corn, crude	19,681	19,900	20,093	20,061	14,523	14,749
Corn, refined	18,663	18,611	18,499	16,984	4,330	4,898
Soybean, crude	258,706	228,433	200,951	207,819	138,111	142,947
Soybean, refined	186,529	191,788	181,253	174,010	95,000	99,466
Coconut, crude	29,498	38,337	45,550	*43,428	‡60,680	*‡69,403
Coconut, refined	26,618	27,982	27,788	22,544	10,691	16,249
Vegetable foots (100% basis)	21,312	23,288	13,993	14,946	43,456	43,776

*Revised. †Commodity Credit Corporation, U. S. Department of Agriculture reported 922,388,000 pounds of refined cottonseed oil owned by them on Feb. 28, 1954. §Data on production and stocks held at crude oil mill locations, collected by Agricultural Marketing Service, U. S. Department of Agriculture. ‡Data for stocks of crude coconut oil are on a commercial stocks basis and do not include figures for stock piles of strategic oils.

FACTORY CONSUMPTION OF VEGETABLE FATS AND OILS, BY USES, DURING FEBRUARY 1954

	Edible products				Inedible products			
	Shortening	Margarine	Other edible	Soap	Chemicals	Paint & Varnish	Lubricants & greases	Other inedible
Cottonseed, refined	25,207	5,250	1,298	.....	95	.....	.....	43
Soybean, crude	.....	.....	.....	41	.....	473	.....	1,178
Soybean, refined	36,635	4,627	8,836	.....	.....	5,730	10	4,152
Vegetable foots	.....	.....	.....	2,484	.....	61	.....	624
Hydrogenated cottonseed oil, edible	24,068	29,350	.....	.....	.....	.....	.....	.....
Hydrogenated soybean oil, edible	37,835	58,079	663	.....	.....	.....	.....	.....
Hydrogenated vegetable oil, other, edible	1,845	.....	1,208	.....	.....	.....	.....	.....
Fatty acid stock	.....	.....	.....	636	.....	53	9	139

● **STOCKS ON FARMS.** Soybean stocks on farms Apr. 1 are estimated at nearly 37 million bushels, compared with 60 million bushels a year earlier, according to the U. S. Department of Agriculture crop reporting board. Farm stocks are the lowest for Apr. 1 since 1948 and 5 million bushels below the 10-year average.

Disappearance of soybeans from farms during the January-March quarter totaled 43 million bushels. In the same quarter last year, only 24 million bushels moved from farms. The heavy disappearance this quarter reflected the relatively favorable prices received for soybeans. Most of the 1953 soybeans placed under government loan have since been redeemed.

Farm stocks are largely concentrated in the North Central states with that area accounting for more than 90 percent of the total U. S. farm stocks. Illinois, the heaviest producing state, has 9 million bushels. Iowa is second with nearly 7 million bushels and Minnesota third with 5 million bushels still on farms.

SOYBEAN STOCKS ON FARMS APR. 1 (1,000 bu.)

State	Average 1943-52	1953	1954	State	Average 1943-52	1953	1954
N. Y.	59	15	16	Md.	229	216	180
N. J.	100	53	73	Va.	393	385	374
Pa.	158	94	113	W. Va.	4	3	.....
Ohio	4,725	6,204	3,186	N. C.	888	663	572
Ind.	5,822	9,096	4,054	S. C.	118	272	286
Ill.	13,088	14,269	9,228	Ga.	46	94	150
Mich.	578	524	293	Fla.	.....	5	4
Wis.	208	261	162	Ky.	314	205	175
Minn.	2,453	5,706	4,985	Tenn.	234	344	263
Iowa	8,177	13,620	6,524	Ala.	75	52	94
Mo.	2,135	4,258	3,064	Miss.	460	737	360
N. Dak.	40	116	93	Ark.	458	693	732
S. Dak.	136	408	392	La.	81	24	13
Nebr.	95	92	447	Okla.	33	52	45
Kans.	445	1,030	635				
Del.	239	168	127	U. S.	41,803	59,669	36,640

● **PRICES.** Average price received by farmers, effective parity price and price support rates. (Dollars per bushel.)

Average Farm Price		Effective parity	Average price as percent of parity	National average price support rate	
Mar. 15 1953	Feb. 15 1954	Mar. 15 1954	Mar. 15 1954	1953 crop	1954 crop
2.81	2.97	3.22	2.83	1.14	2.56	2.22

Average farm and parity prices from crop reporting board.

SOYBEANS, No. 2 Yellow: Average monthly price per bushel at Illinois country shipping points, 1946 - to date (dollars)

Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Avg.
1946-47	3.22	3.17	2.88	3.07	3.20	3.93	3.62	3.12	3.12	3.30	3.17	3.14	3.25
1947-48	3.38	3.69	3.94	4.23	3.43	3.52	3.88	4.00	4.14	3.79	3.19	2.73	3.66
1948-49	2.43	2.55	2.52	2.40	2.18	2.20	2.15	2.25	2.20	2.50	2.77	2.20	2.36
1949-50	2.16	2.10	2.20	2.20	2.25	2.45	2.68	2.90	3.00	3.10	2.75	2.45	2.52
1950-51	2.30	2.72	2.95	3.10	3.25	3.25	3.25	3.24	3.04	2.94	2.87	2.77	2.97
1951-52	2.80	2.90	2.95	2.90	2.90	2.88	2.82	2.92	3.17	3.22	3.25	2.98	2.97
1952-53	2.85	2.89	2.90	2.85	2.82	2.94	2.95	2.87	2.76	2.56	2.55	2.47	2.78
1953-54	2.57	2.83	2.99	3.03									

Grand total of shipments of shortening and edible oils in January were 307,272,000 pounds; in February 316,667,000 pounds.

● **SUPPLY AND DISTRIBUTION** of the 1953-54 soybean crops, reported by Agricultural Marketing Service. (1,000 bu.)

	1952-53	1953-54
Carry-over (1)	3,575	10,137
Production	298,052	262,341
Total supply (2)	301,627	272,478
Farm use including seed for season	22,840	26,000
Quantity remaining for processing, export, or carry-over	278,787	246,478
Disappearance through Feb. 29 (3):		
Crushed for oil or processed (4)	111,129	106,977
Exported	19,636	30,179
Total	130,815	137,156
Balance on Mar. 1 for processing, export, or carry-over	147,972	109,322

(1) Stocks as of Oct. 1. (2) Imports negligible. (3) October through February. (4) It is estimated that around 5 million bushels of new crop soybeans were crushed prior to October in both 1952 and 1953. Therefore, 5 million bushels are included in the quantity crushed for both 1952 and 1953.

● **FUTURES MARKETS.** Volume of futures trading in most agricultural commodities increased in March, according to the U. S. Department of Agriculture's report based on Commodity Exchange Authority.

Activity in fats and oils showed considerable increase over February. The volume in soybeans and soybean oil was also considerable above the level of March of last year.

The volume figures follow, all markets combined, for March 1954, and percent of increase, compared with February 1954 and March 1953:

Commodity	March 1954	Percent increase compared with Feb. 1954	Mar. 1953
Soybeans	704,748,000 bu.	47	122
Soybean oil	616,020,000 lbs.	75	149
Soybean meal	400,600 tons	35	144

● **INSPECTIONS.** Soybeans, inspected by grades and percent, as reported by USDA's Agricultural Marketing Service.

SOYBEANS: INSPECTED RECEIPTS, BY GRADES, AND PERCENT (1)

Grade	Oct.-Mar. 1952-53		Oct.-Mar. 1953-54		March 1953		February 1954		March 1954 (2)	
	1,000 bu.	%	1,000 bu.	%	1,000 bu.	%	1,000 bu.	%	1,000 bu.	%
No. 1	24,617	17	48,602	29	2,537	16	6,399	34	4,758	35
No. 2	66,527	45	68,813	41	7,985	52	8,532	45	5,995	44
No. 3	26,368	18	24,299	14	2,290	15	2,171	11	1,514	11
No. 4	19,713	13	17,350	10	1,783	12	1,246	7	839	6
Sample	10,569	7	10,487	6	836	5	654	3	463	4
Total	147,794	100	169,551	100	15,431	100	19,002	100	13,569	100

(1) Carlot receipts have been converted to bushels on the basis that 1 carlot equals 1,650 bushels. (2) Of the March 1954 receipts, 4,650 bushels were black, and the remainder yellow soybeans. Inspections of soybeans in March included 867,000 bushels as cargo lots, 193,834 bushels as truck receipts, and the balance at carlot receipts.

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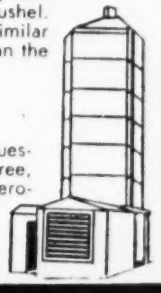
Yes. An Aeroglide drier is the most profitable piece of equipment in any grain elevator regardless of size! During the drying season it is common practice to run the units 24 hours per day and many owners have reported profits up to $450 per day. In virtually every installation, the driers have completely amortized their first cost in a matter of months. One owner actually paid for his drier installation in 52 days!

What will it cost me to dry grain with my Aeroglide drier?

The operating cost of the Aeroglide drier is believed to be the lowest of any commercial unit available! In records kept on various installations, it has been shown that the total cost of drying, including fuel oil and electricity required, is approximately six-tenths of a cent per bushel of grain. This cost, figured on corn and beans, is based on a moisture extraction of 5 per cent. The gross cost, including amortization, maintenance of the equipment, etc., will usually total 2 to 2½ cents per bushel. The drying cost for wheat, oats and similar small grains is considerably lower than the figures quoted.



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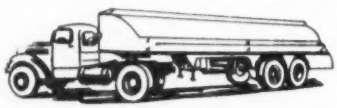

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● **PROTEIN PRICES.** Retail protein price report for Apr. 15, by Protein Economics and Research Council.

Food	Retail price(1)	% Protein(2)	Price per lb. of protein(3) paid by consumer(4)
Beef —			
Chuck Roast	$0.54 lb.	16.2	$3.07
Hamburger	0.42 lb.	16.1	2.08
Round Steak	0.86 lb.	17.6	4.72
Cheese —			
Cottage	0.24 12 oz. box	19.5	1.63
Cured Cheddar	0.68 lb.	25.1	2.32
Chicken —			
Frier, ready to cook	0.55 lb.	15.2	3.51
Eggs, Fresh	0.58 doz.	11.4	3.28
Fish —			
Haddock, Frozen Fillet	0.48 lb.	18.2	2.64
Salmon, Canned Pink	0.53 lb.	20.5	2.49
Lamb, Leg	0.75 lb.	15.0	4.71
Milk —			
Evaporated	0.15 14½ oz. can	7.0	1.86
Fresh, Whole	0.22 qt.	3.5	2.48
Non-fat, Dry	0.40 lb.	35.6	0.97
Pork —			
Chops	0.87 lb.	13.3	6.07
Ham, Whole	0.70 lb.	14.7	4.19
*Soy Flour	0.20 lb.	50.0	0.40

(1) Estimated retail prices reasonably representative of current U. S. prices on basis of spot checks and price trends. Must be adjusted to meet local conditions. (2) Percent protein, Composition of Foods, U. S. Dept. of Agriculture, Agriculture Handbook No. 8. Foods may vary appreciably from these values. (3) In estimating the price per lb. of protein in the above foods, all carbohydrates are arbitrarily calculated at 10c per lb. and fats at 30c per lb. The dollar value of vitamins, minerals and water is considered negligible on a pure chemical market basis. The balance is charged against protein. (4) The proteins considered in this report are all of animal protein nutritive quality.
The Protein Economics and Research Council, Inc., (PERC), 311 Pammel Court, Ames, Iowa.
* Reported by soy flour processors, not by PERC.

● **EXPORTS.** U. S. exports of soybeans and oil for February, as reported by the Foreign Agricultural Service of the U. S. Department of Agriculture.

Soybeans	2,501,109 bu.
Soybean oil	
Crude	17,921,872 lbs.
Refined, but not further processed	1,093,164 lbs.
Refined, deodorized and hydrogenated	3,380 lbs.

Converted to a soybean equivalent basis the exports for February amounted to 4,318,653 bushels.

SOYBEAN EXPORTS (1,000 bu.)

—Season— Oct.-Feb. 1952-53	Oct.-Feb. 1953-54	—Monthly Data— Feb. 1953	Mar. 1953	Feb. 1954	Mar. 1954*
19,686	29,780	2,256	1,659	2,501	1,750

*Unofficial estimates based on boat loadings and inspections. Official U. S. Bureau of the Census data except for March 1954.

● **STOCKS.** Production and Marketing Administration's commercial grain stocks reports. (1,000 bu.)

	Mar. 30	Apr. 5	Apr. 13	Apr. 20	Apr. 27
U. S. Soybeans in Store and Afloat at Domestic Markets					
Atlantic Coast	1,417	983	539	506	508
Gulf Coast	2,344	2,132	1,776	1,534	1,449
Northwestern and Upper Lake	1,319	1,176	1,056	922	699
Lower Lake	5,357	5,335	5,442	5,370	4,847
East Central	436	402	322	257	234
West Central, Southwestern & Western	1,422	1,432	1,471	1,434	1,400
Total current week	12,295	11,460	10,606	10,023	9,137
Total year ago	9,628	9,048	8,014	7,595	7,285
U. S. Soybeans in Store and Afloat at Canadian Markets					
Total current week	25	67	38	0	64
Total year ago	201	201	201	201	201
Total North American Commercial Soybean Stocks					
Current week	12,320	11,527	10,644	10,023	9,201
Year ago	9,829	9,249	8,215	7,796	7,486

● **IMPORTS.** Imports of soybean seed admitted into the U. S. under the federal seed act from July 1, 1953, to Mar. 31, 1954, totaled 258,600 pounds compared with 61,400 pounds for the same period a year earlier, reports U. S. Department of Agriculture.

Seed imported in March totaled 4,900 pounds compared with 7,200 pounds in March 1953.

All seed imported was from Canada.

● **SHORTENING.** Standard Shortening shipments reported by the Institute of Shortening and Edible Oils, Inc., in pounds.

Apr. 3	7,398,203
Apr. 10	8,145,001
Apr. 17	10,040,881

● **PROCESSING OPERATIONS.** For February and March. Reported by Bureau of the Census.

PRIMARY PRODUCTS, EXCEPT CRUDE OIL, AT CRUDE OIL MILL LOCATIONS: PRODUCTION, SHIPMENTS AND TRANSFERS, AND STOCKS, MARCH 1954-FEBRUARY 1954

Products	Unit of measure	Production		Shipments and transfers		End of month stocks	
		Mar. 1954	Feb. 1954	Mar. 1954	Feb. 1954	Mar. 31 1954	Feb. 28 1954
Soybean:							
Cake and meal	tons	456,660	438,374	448,451	404,439	170,729	162,520
Lecithin	1000 lb	2,499	2,261	2,475	1,829	2,500	2,476
Edible soy flour, full fat	tons	489	502	574	381	204	289
Edible soy flour, other	tons	6,355	5,006	6,411	4,731	911	967
Industrial soy flour	tons	2,681	2,575	.....	2,300	.....	1,424

SOYBEANS: RECEIPTS, CRUSHINGS, AND STOCKS AT OIL MILLS, BY STATES, MARCH 1954 - FEBRUARY 1954
(Tons of 2,000 pounds)

State	Receipts at mills		Crushed or used		Stocks at mills	
	March 1954	February 1954	March 1954	February 1954	Mar. 31 1954	Feb. 28 1954
U. S.	438,024	640,062	577,567	566,175	1,568,901	1,708,444
Arkansas	(1)	(1)	.....	(2)	(2)	25,328
Illinois	170,374	259,325	205,938	218,358	681,200	716,764
Indiana	43,658	71,640	74,531	69,074	139,691	170,564
Iowa	111,854	142,041	113,732	107,581	277,100	278,978
Kansas	(2)	(2)	(2)	(2)	(2)	(2)
Kentucky	(2)	19,586	(2)	13,938	(2)	73,225
Minnesota	47,081	42,024	43,104	40,396	37,894	33,917
Mississippi	(2)	(2)	.....	(2)	(2)	21,996
Missouri	15,793	(2)	27,895	13,944	38,506	50,608
Nebraska	(2)	(2)	(2)	(2)	(2)	(2)
No. Carolina	(2)	110	(2)	(2)	(2)	4,414
Ohio	33,977	71,472	66,725	66,907	192,263	225,011
All other	21,514	33,864	45,642	35,977	202,247	107,639

(1) Receipts exceeded by reshipments of beans previously received and held in the state. U. S. receipts are on net basis, excluding transfers between mills. (2) Included in "All other" to avoid disclosure of figures for individual companies.

SOYBEAN PRODUCTS: PRODUCTION AND STOCKS AT OIL MILL LOCATIONS, BY STATES, MARCH 1954 - FEBRUARY 1954

State	Crude oil (thousand pounds)				Cake and meal (tons)			
	Production		Stocks		Production		Stocks	
	March 1954	February 1954	Mar. 31 1954	Feb. 28 1954	March 1954	February 1954	Mar. 31 1954	Feb. 28 1954
U. S.	213,372	208,706	38,180	45,639	456,660	438,374	170,729	162,520
Arkansas	.....	(1)	(1)	(1)	.....	(1)	(1)	248
Illinois	78,551	82,572	14,651	12,070	154,487	154,460	65,498	69,872
Indiana	26,985	25,222	4,132	8,554	60,829	55,388	63,304	49,333
Iowa	42,152	39,629	7,191	9,247	93,017	88,692	18,879	17,410
Kansas	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Kentucky	(1)	5,187	(1)	657	(1)	11,184	(1)	791
Minnesota	15,275	14,278	4,024	4,999	34,295	32,694	9,731	6,399
Mississippi	.....	(1)	.....	(1)	.....	(1)	(1)	327
Missouri	10,200	5,296	1,908	2,013	22,666	11,460	1,812	2,350
Nebraska	(1)	(1)	363	345	(1)	(1)	(1)	(1)
N. Carolina	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Ohio	23,777	23,980	3,222	5,064	54,677	54,586	2,311	3,860
Oklahoma	.....	.....	.....	.....	.....	.....	(1)	(1)
All other	16,432	12,542	2,689	2,690	36,689	29,410	9,194	11,930

(1) Included in "All other" to avoid disclosure of figures for individual companies.

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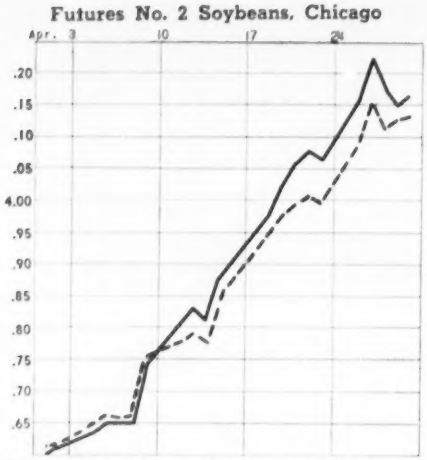
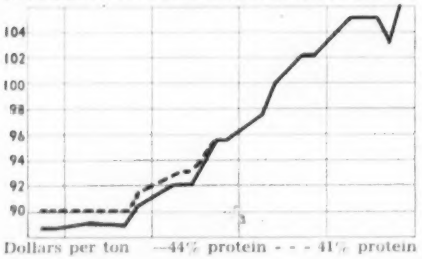


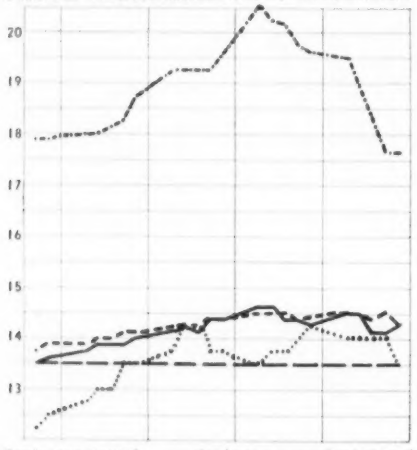
Dollars per bushel —March - - - May

SOYBEAN OIL MEAL, DECATUR, BULK



Dollars per ton —44% protein - - - 41% protein

CRUDE VEGETABLE OILS, TANKCARS



Cents per pound —Soybeans - - - Cottonseed
. . . . Coconut —·—·Soybean fatty acids
—·—·—Lard

April Markets

WAR PSYCHOLOGY resulting from the critical situation in Indonesia plus a supply of soybeans too small to meet the needs of processors and the export market pushed soybeans to new six-year highs in April. The price of meal was also close to the record established in 1947.

Supplies of beans remaining for export, crushings and carryover were about 40 million bushels below a year earlier.

An unofficial processor report showed 19 or 20 million bushels of soybeans were crushed in March, a surprise to the trade since it had been reported many plants were shutting down.

Stocks of soybeans in all positions on Apr. 1 totaled 117 million bushels, the smallest for that date in five years, USDA reported; and compared with 147 million bushels a year earlier.

Included in Apr. 1 stocks were farm stocks of nearly 37 million bushels; interior mills and elevators 17 million; terminals 11.5 million; 52 million at processing plants; and 36,000 owned and stored by Commodity Credit Corp.

Disappearance from an estimated total crop of 272.5 million bushels was 155 million bushels.

Farm stocks of soybeans were about cleaned up in April with the exception of a small bushelage that may be marketed following seeding.

There was a good export demand. Beans were being shipped out of Chicago to gulf ports.

The government's announcement that it would sell dried milk at bargain prices, cottonseed oil sales and the government's butter disposal plan had little effect on the markets, though it was figured that the skim milk sales might slow down the advance in the soybean oil meal market.

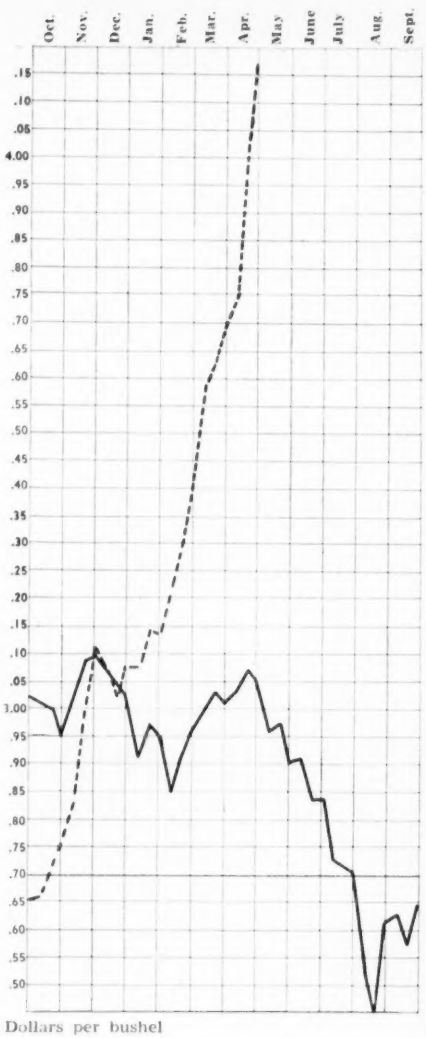
There was a temporary decline in the soybean futures market following the Chicago Board of Trade announcement that increased initial minimum margin requirements on May and July soybean speculative futures contracts to 50 cents per bushel from 40 cents effective Apr. 28. September and following months will remain at 30 cents per bushel.

● **SOAPSTOCKS.** Acid soybean soapstocks delivered Midwest advanced from 7¾ to 8 cents a pound during April. Raw soybean soapstocks advanced from 3½ to 3¾ cents.

TRENDS AT A GLANCE
CRUDE SOYBEAN OIL

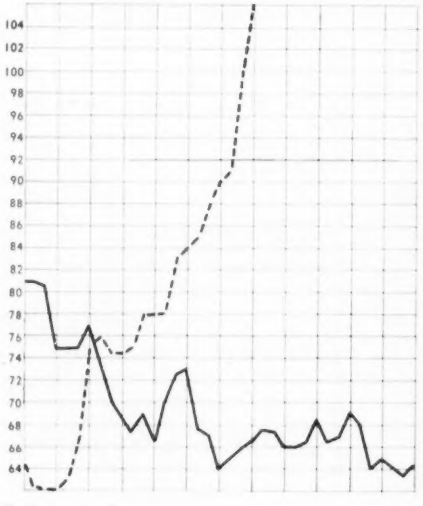
Cents per pound
— 1952-53 - - - 1953-54

TRENDS AT A GLANCE
NEAR FUTURES SOYBEANS



Dollars per bushel

SOYBEAN OIL MEAL BULK



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